COMING FEATURES

(dates are tentative)

GENERAL

Density in Yarn Packages..Mar. 26
Microscopic Fiber Study....April 23
Numbering System for All Yarns .....April 30

COTTON

Weave-Room Efficiency ....Mar. 26
Spinning-Room Reports ..April 16
Warping for Satisfactory Slashing and Weaving....May 14

WOOL

New Fabrics .....April 16
Blending Calculations .....April 30
Backed, Double, Treble Cloths .....May 14

SILK

Imitation Woolens ..... April 2
Winder Differential Motion April 16
Loom Shipping and Driving May 14

RAYON

Controlling Knit-Goods Quality .....April 9
Weaving on Cotton Looms..May 7
Adjusting Loom Lay.....May 21

KNITTING

Full-Fashioned Narrowing..Mar. 26
First Annual Knitting Review ..... April 9
Cut-Presser Designing ....April 30

PROCESSING

Dasheen Starch ..... April 16
Preventing Shrinkage of Wool Knit Goods .....May 7
Degumming Silk-Wool Mixtures .....May 21

ENGINEERING

Conveyor Maintenance .....April 2
Arc Welding .....April 2
Mill Lighting ..... April 23

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Textile World

ESTABLISHED 1868

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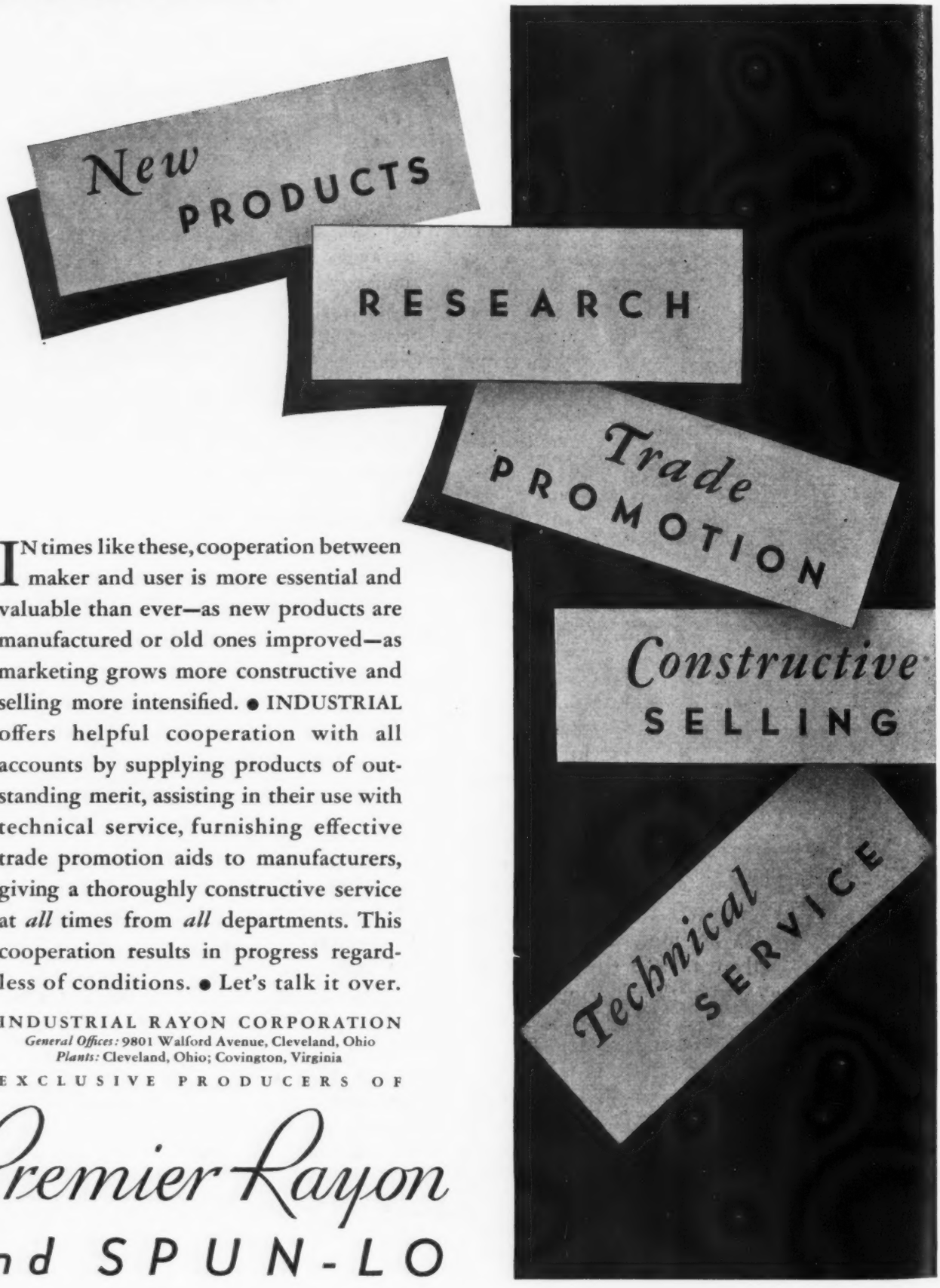

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March 19, 1932

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Editor: Douglas G. Woolf

Wanted: A Dramatist for Testing Procedure

IT WOULD be fine if there were some way in which the work of Committee D-13 of the American Society for Testing Materials could be dramatized.

Non-technical men—and in fact most technical men—will not find the meetings of this committee particularly thrilling. There is necessarily a mass of unspectacular drudgery and routine procedure which must be undergone before any one specification can work its way out of the committee and into a position of general usefulness.

And yet the potential results of this dull work are exceedingly dramatic in themselves. They represent the difference between hit-or-miss and scientific methods of production and sale of textile materials.

▼

The ramifications of Committee D-13's activities extend far beyond the limits of testing as implied in the name of the society of which it is a part. Here is a case in point: At the meeting in Providence last week, a great deal of discussion centered around the fact that many mills are finding cotton from the 1931 crop, particularly of $1\frac{1}{16}$ in. and over, inferior in tensile strength to that of the 1930 crop. In connection with the development of certain data within the committee, it is necessary that definite information on this point be secured. Consequently, as the result of a questionnaire, light will be shed on a problem which is far broader than specifications and test methods, and which concerns not only cotton manufacturers but cotton growers and allied trades.

Similarly, there are controversial matters pending today, such as the weighting of rayon underwear fabrics, the use of oil in rayon, and others, which demand the application of specific knowledge developed by technicians rather than mere trading between interested groups. In such work, Committee D-13 can be of inestimable help.

The committee is not, of course, self-sufficient—nor does it attempt to be. It tries to orient its work with that of other technical and standardization organizations established by the industry and by the Government. This works both ways. As an example, Charles H. Clark, secretary of the U. S. Institute for Textile Research, stated in his banquet address at Providence that his institute expected to hand over the results of certain investigations to Committee D-13 to be put through its regular procedure for the development of necessary specifications and test methods.

▼

The committee has grown notably, both in size and scope, since its formation in 1915. However we have a feeling that only a small percentage of its potential effectiveness is being utilized. We urge both technicians and executives, who are not familiar with its work, to expose themselves to the contagion of its seemingly drab but actually brilliant activities.

As a meeting place for producers and consumers, it offers a tool whereby unscientific sale and purchase of textile materials may be eliminated and trade abuses corrected—a tool, as indicated above, far more effective than so-called trade agreements.

The Week in Textiles

as Reflected in This Issue

General

Undiscovered Knowledge
An orderly review of the outstanding developments in the textile industry reveals that fundamental research has been the medium through which most important inventions have come to light. Scientific knowledge, surprisingly, has accounted for only a small part of textile progress. *(page 26)*

Design as Merchandising Factor
Design as a merchandising factor is explained. The necessity of having fabric designs in tune with current fashion is stressed. "Promotion cannot buck fashion. . . . It pays to advertise only those things which are fashionable. *(page 35)*

Index Numbers
TEXTILE WORLD index numbers show wool and its manufactures as a group unchanged in February from preceding month, but prices at 129% of July 1914 basis are 24 points lower than in February of a year ago. The cotton group, at 86, scored an advance of 1 point over January but is 26 points below a year ago. *(page 43)*

Harness Clamp
Announcement is made of the development of a new harness clamp of simple design which enables a more accurate and permanent adjustment of the straps. *(page 44)*

Cotton

1931 Crop Inferior
Largely because of its decreased tensile strength as compared with the 1930 cotton crop, the present supply is declared by many mill men to be inferior. Committee D-13 discusses this problem and reviews the activities of its subcommittees. *(page 24)*

Spinning Qualities
Some of the factors which affect the spinning qualities of cottons are discussed; and it is pointed out that variety, origin, and growing conditions are largely responsible for the degree in which good spinning qualities exist in the stock. *(page 28)*

Shorter Working Hours
Emphasis upon shorter working hours is regarded as essential according to an article by Henry P. Kendall, president of Kendall Co., in March issue of *Survey Graphic*. *(page 38)*

Shall Mills Convert?
Unethical pressure by a few converters in unwarranted cancellations and claims in the cotton goods industry, says this week's TEXTILE WORLD Analyst, brings mills face to face with the question of absorbing the converter's function. *(page 49)*

Cotton Does Not Recede Much
Raw cotton swung downward early this week with the general turn of commodities but the swing did not go far. *(page 51)*

Yarns Dull but Hopeful
Cotton yarn men are hopeful that a better market lies just around the corner. They believe that most of the low priced yarn has been sold. *(page 51)*

Goods Laying New Foundation
Cotton goods are going through another formative period. Trade is quiet; prices fairly firm; broader movement is expected soon. *(page 55)*

Wool

Adjusting the Loom
That the loom is one of the most difficult machines in the mill to adjust cannot be denied; but there are several accurate and time-saving tricks in regard to adjusting some of the essential motions with which it is well to be familiar. Some widely accepted fallacies are exposed. *(page 30)*

Blanket "Part Wool" Code O'K'd
A "part wool" label code, permitting use of term on all blankets containing more than 5% wool, was approved by majority of blanket industry at meeting held by Bureau of Standards in New York. *(page 39)*

Making Core Yarn
Suggestions are offered for making a satisfactory core yarn for knitting. The base yarns are put in at the rub aprons of the card, and no draft is applied on the mule. *(page 46)*

The Textile Outlook

THE formula for developing a sustained market is the mere balancing of production to demand but it seems to have taken the textile markets a long time to put this knowledge into effect. The cotton goods field seems to have taken a real step in the right direction during this first quarter of 1932 since it has lately weathered a four-week dull period with merely nominal recessions in first hand prices. Although toward the close of the week more activity seemed to be stirring, it was premature at time of writing to say that a new buying move had started. If mills can carry on through the year as they have up to the middle of March there will be chance for a profit even on reduced volume and no more demoralization. Wool goods men would do well to study this situation as there is pressure upon them which may upset their market unless the situation is carefully handled. Silk manufacturers see a future still clouded by weak raw material prices but immediate sales are better. Knit goods have been disappointed by the early Easter, but will probably do additional spring business after Easter passes.

Record Dullness in Yarns

Spinners and dealers report the present to be the quietest period ever known in worsted yarns. *(page 51)*

Wools Are Easier

The neglected position of the wool market is evidencing itself in easier prices despite statements to the effect that the market is unaffected. *(page 53)*

Spring Fabrics Clearing

Clearance of spring suitings and topcoatings, and fall plans kept wool goods mills busy this week. *(page 55)*

Knitting

Hosiery's New Pilot

Earl Constantine, new pilot at the helm of the hosiery industry will devote first six months to absorbing trade's problems. His personality and plans are described. *(page 33)*

Finished Width for Underwear

It is important to know how much stretch should be imparted to underwear fabric in the finishing, as this will have considerable effect upon the shrinkage of the garment. *(page 47)*

Cold Spell Hits Hosiery

While mesh continues active, the cold spell has hurt the Easter business as a whole, hosiery mills report. *(page 56)*

Underwear Uncertain

Fall underwear moves slowly, and lightweight lines are less active than last month, due to weather conditions. *(page 56)*

Bathing-Suits Backward

Backward buying of swimsuits has convinced most knitters that there will be congestion in the market when spring stimulates sales. *(page 56)*

Plan Industry-Wide Wool Body

AN organization to which problems of general interest to the various divisions of the woolen and worsted industry can be referred for united action will be created at a meeting in the Hotel Commodore, New York, Tuesday morning, April 12. Representatives of wool growers, wool dealers, wool manufacturers, carpet weavers, garment makers and others will assemble at this session to determine what kind of an organization should be created and how it shall function. It is unlikely that any body will be set up requiring officers, headquarters and expenses necessitating dues. Rather a skeleton organization is planned which could be brought together from time to time.

Members of the National Wool Week Committee will be among those present and will report regarding what has been done thus far. The proposed new organization will offer a central channel for cooperation on such matters as Wool Week.

The National Association of Wool Manufacturers has issued invitations to 14 associations and sent delegates following the proposals of its president, Franklin W. Hobbs, at the annual meeting Feb. 10, that the executive committee consider a plan to bring the various interests in the wool industry together. Mr. Hobbs has appointed A. E. Colby, Pacific Mills; Col. Charles F. H. Johnson, Botany Worsted Mills; Allen R. Mitchell, Jr., Allen R. Mitchell & Son, and Lionel J. Noah, American Woolen Co.

Silk

Streaks in Yarn-Dyed Taffeta

Unevenness in the yarn is determined as the cause of regular filling streaks in yarn-dyed taffeta. *(page 46)*

Potassium Carbonate in Soaking

The purpose which potassium carbonate serves in the silk soaking bath is explained. *(page 47)*

Piece-Dyeing Machine

A new piece-dyeing machine of the oval-reel type which is so designed that stretching and chafing of the fabrics is minimized is described. *(page 45)*

Raw Silk at New Lows

Lack of buying and an uncertain tone in Japan brought new low levels in raw silk prices. The decline failed to arouse much interest. *(page 53)*

Fabric Output Slackens

Warned by slump in buying, broadsilk mills have finally begun to cut output, and a better market tone is expected. Prices are soft. *(page 55)*

Rayon

Strong Curtailment Move

Rayon yarn producers have moved generally toward curtailment; sales show a decisive drop but the curtailment may offset this. *(page 53)*

Processing

Latex Compounds

New fields and possibilities to the textile industry have been opened by the comparatively recent discovery of the desirable properties of latex, a colloidal suspension of rubber in water. *(page 22)*

Waterproofing Methods

Adherence to time-worn and objectionable methods has retarded progress in waterproofing. *(page 34)*

Light-Running Dye Jig

Announcement is made of an improved dye jig especially adapted to treating light-weight goods. *(page 44)*

Finishing Tapes and Ribbons

A good procedure for finishing tapes and ribbons after bleaching is outlined, and a diagram of a horizontal calender for sizing and drying the material is provided. *(page 47)*

The Business Outlook

A LIGHT frost fell upon financial markets about the Ides of March, chilling the more cheerful atmosphere of recent weeks. Foreign influences were the chief factors, although the uncertain effects of the Kreuger & Toll affair were offset by the favorable outcome of the German elections. Fears about balancing the Federal budget in face of falling income tax returns and revolt on the sales tax feature of the new revenue bill were weakening factors in the bond market. The surprising steadiness in the broad averages of stock prices since the middle of December is a significant symptom of increasing resistance to discouraging news. Although some slight slow improvement in the banking position is perceptible, especially in steadiness of country bank deposits, the pressure toward expansion under Federal Reserve open-market policies is still disappointingly feeble. The attitude of member banks toward cooperation with administration efforts for credit expansion continues uncompromisingly skeptical about possibility of speeding recovery. Commodity prices continue weak and business activity shows almost no sign of response.—*The Business Week.*

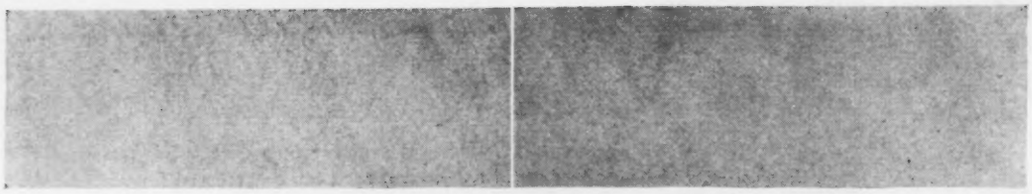


Fig. 1. Artificial leather for use as quarter-lining in shoes — napped sheeting base

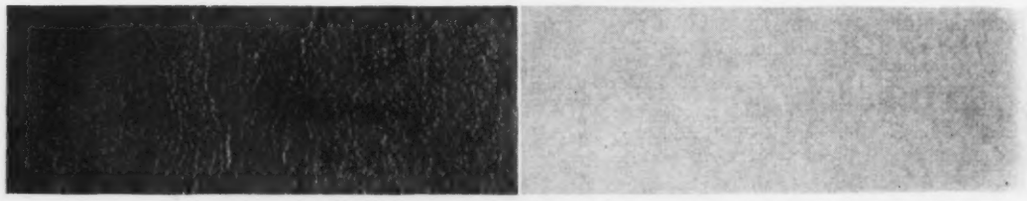


Fig. 2. Artificial leather with moire effect—napped sheeting base

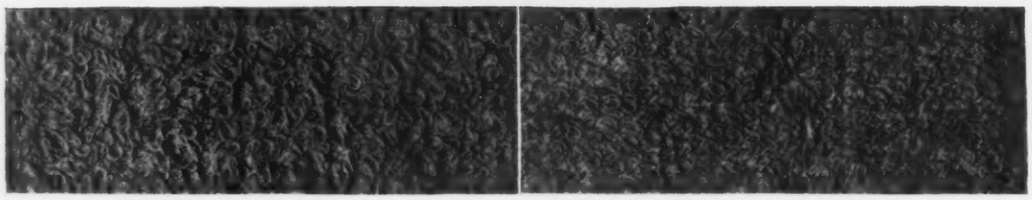


Fig. 3. Rug underlay made from terry cloth

Latex Compounds

Open New Fields in Textile Fabrication and Finishing

By James A. Austin

New England Editor, TEXTILE WORLD

WHEN three such products as the "seemingly seamless" rug of Collins & Aikman Corp., the non-woven floor covering of the Lea Fabrics, Inc., and a round rubber thread were announced, alert textile men began to take notice. They took further notice when they realized that all three products utilized different compounds of the same raw material, latex.

Latex is the milky-white juice of that group of trees from which, by subsequent chemical processes, rubber is produced. Only recently has it been discovered that nature, in providing in latex a colloidal suspension of rubber in water, offers a product which, through proper compounding, opens new fields and possibilities to the textile industry. Some of these possibilities have already been realized, but it is safe to say that many more await development; and the development will lead far afield from the original use as backing for rugs.

To digress for the moment from the immediate portent, the history of the development of latex offers an interesting and typical example of chemical progress. As is the case in so many other current industrial usages, some of the original work was done long ago.

In 1824 a number of scientists experimented with latex; but it was not until 1853 that means of preservation were found. Development was held up primarily by the fact that the trees producing latex grew in a wild state. When it is realized that there is a wide variation in the quality of the product secured from wild trees, and that even under cultivation the yield is only 150 gal. per acre per year, it is apparent why little attention was paid to commercial possibilities. Around 1906, however, the first rubber plantations were established.

When the trees came into yield, about 1912, those who were interested in latex itself, in addition to its derivative rubber had a sure supply to count on. Experimental work was started, primarily in England, but was interrupted by the World War. The work was later renewed with some of the results enumerated in first paragraph.

Applied on Textile Equipment

The textile man's interest in latex rubber compounds is heightened by the fact that these compounds can be easily handled with the usual textile finishing equipment, and can be used to produce new types of fabrics and to give new uses to old fabrics.

The developments of Collins & Aikman, Corp. and Lea Fabrics, Inc., were described in TEXTILE WORLD, March 21, 1931. Each represents a different compound of latex made to meet certain requirements. Meanwhile further developments along these lines have taken place, and interest now centers on still other possibilities. To be specific, latex rubber compounds have been developed to produce artificial leather (Figs. 1 & 2), non-skid rug underlays (Fig. 3), backing and sizing for pile fabrics (Fig. 4), a binding and strengthening agent for fabrics that otherwise would be too sleazy for rough usage (Fig. 5), double-texture fabrics (Fig. 6), and non-skid backing for hooked rugs. Illustrations show face of fabric on left, and back on right.

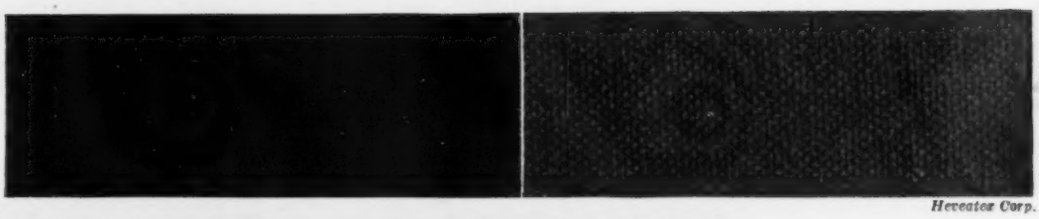


Fig. 4. Pile fabric utilizing latex compound to hold V weave

Heveatex Corp.

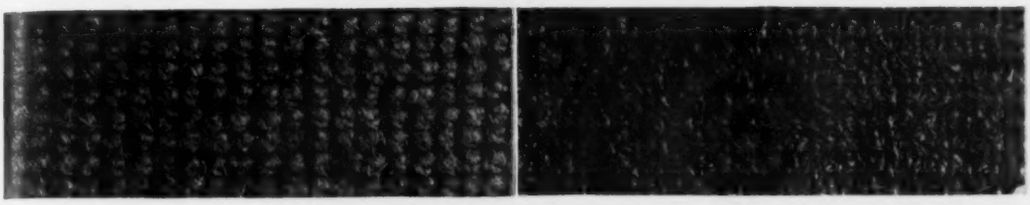


Fig. 5. Carpet material

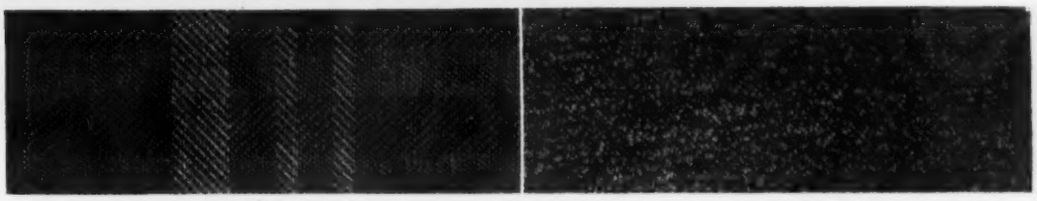


Fig. 6. Double-texture fabric

Textile men have previously considered at least two of these uses—the production of artificial leather and the cementing together of two fabrics—as within the realm of rubber manufacturers, since in the past it has been necessary to use inflammable solvents and high vulcanizing temperatures. (Rubber manufacturers in fact have made the greatest use of latex compounds to date). The important point, however, is that the equipment of the average textile finishing plant is far better suited to the making of such materials, when latex compounds are used, than the equipment of the rubber manufacturer.

Artificial Leather and Other Effects

As an example, artificial leather similar to that shown in Fig. 1 is being produced by rubber concerns; but an ordinary tub sizing box or back filling machine, together with a tenter frame or dry cans, can do the job far more economically. All that is necessary is to use some machine which will saturate the fabric, remove the excess of the compound, and dry the goods at a temperature of 250 to 265° F.

It is obvious that the textile mill is not equipped to develop the various compounds required. The production of compounds that will resist oxidation—the bugbear of rubber—and that will withstand dyeing and scouring, etc., is the job of specialists. It is the job of the textile man, however, to discover what possibilities are offered by the compounds now developed, or by those that will be developed because of the textile man's interest. The specialists in compounding latex perform the functions of standardizing the product, removing impurities, and adding chemicals that will make the product suitable to a certain need. Beyond that it is largely up to the ingenuity of textile men.

The compounds can be applied at room temperature. The idea is to apply in a state of colloidal suspension in water and then evaporate the water. The compounds are non-inflammable, and high temperatures are not required for drying (the 250-265° F. mentioned above is typical). They are miscible with other water emulsions and can be combined with dyes that are put in a state of colloidal suspension. Practically the only precaution to be taken is to avoid the presence of copper or brass in the bath, as these metals cause deterioration. Very little change is usually necessary on textile machinery in this respect, the most important item being the substitution of some such piping as that made of Allegheny metal for the common brass steam pipes.

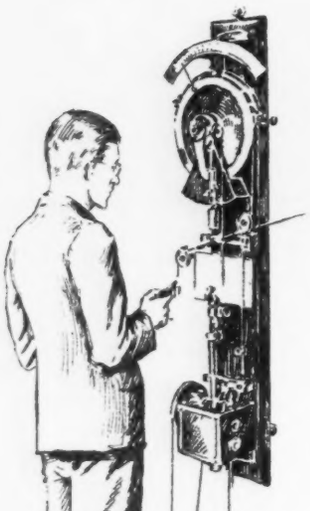
One run through the compound is usually sufficient to produce the result desired. For example, the rug underlay shown in Fig. 3 was produced by one run through a trough containing the emulsion and then dried on a tenter frame. In coating fabrics six or seven runs may be necessary to produce the correct finish, but even in this case the number of runs is about 50% less than required in the ordinary process of manufacturing rubber-coated materials. The sample shown in Fig. 2 is an example of the use of coloring in the compound to produce a green artificial leather. The moire effect is deliberate.

The cementing together of two fabrics is also a simple operation. All that is necessary is to apply a latex rubber compound to one fabric, bring the two fabrics together with the tension supplied by passage over a few rollers, and then dry. This process has been used to produce the so-called "double-texture" fabrics. As the result is a practically waterproof fabric, there has been some interest in applications to produce weatherproof clothing. Both woven and knitted fabrics have been treated.

As developed, latex rubber compounds will stand scouring and dyeing. This means that it is possible to weave a fabric that is so sleazy that it would not stand scouring —or where the pile of a pile fabric is not locked and would be disturbed by any subsequent operation—to impregnate the back with the compound, go ahead with scouring and dyeing, and turn out a fabric that has good wearing qualities. Used as a binder in this fashion the possibilities for rugs and both flat and pile upholstery fabrics are being utilized. The idea is that with a firm binder on the back, the surface may be worn down to almost nothing without fraying.

It is useless to speculate on the future uses of latex rubber compounds in the textile industry. Certain lines have already been developed, but so much depends on the individual initiative and imagination of men in the industry that any comprehensive forecast is ridiculous. The field is open to those who have sufficient patience to go through with experimental work in the hope of finding new, and perhaps strange, fields for the textile finisher.

1931 Cotton Crop Declared Inferior *at Meeting of Committee D-13*



THE fact that mills are finding the 1931 cotton crop—and particularly that part of it covering staple lengths of $1\frac{1}{16}$ in. and over—decidedly inferior to the 1930 crop in tensile strength was the focal point of one of the most important discussions at the meeting of Committee D-13 of the American Society for Testing Materials held in Providence, R. I. Mar. 10-11. Testimony to this effect mounted up during the discussion. Fortunately, there is promise of representative and accurate data on this point since the committee, through one of its subcommittees, is planning to circulate a questionnaire among mills asking for information on experience with the current crop. To date, the causes have not been definitely isolated, but it was indicated at the meeting that decreased use of fertilizer was probably one of them.

In attendance, in character of addresses presented, in reflection of real progress being made by subcommittees, and in the handling of arrangements, the Providence meeting was an unusually successful one. In fact, this was practically assured some time ago when it was announced that Kenneth B. Cook, of Manville Jenckes Co., and David C. Scott, of Henry L. Scott Co., were the local committee on arrangements, the former as chairman. Their efforts, combined with the effective work of Prof. H. J. Ball, of Lowell Textile Institute, chairman of Committee D-13, as presiding officer, made the meeting both pleasant and resultful.

Addresses presented included one on "Burst Test on Knitted Fabrics" by Prof. Geo. B. Haven, of Massachusetts Institute of Technology; one on "Some Factors Influencing Spinning Quality of Cotton" by Prof. H. H. Willis, of Clemson College; and an address, at the banquet, on the need of fundamental research in the textile industries, by Charles H. Clark, secretary of the United States Institute for Textile Research. In addition, talks were made at the banquet by Richard B. Watrous, secretary of the Providence Chamber of Commerce, and Thomas Hagan, vice-president of the Textile Development Co. The addresses by Prof. Willis and Mr. Clark appear elsewhere in this issue.

General Activities of Committee

Among the general activities of Committee D-13 reported to the membership at the general session were the following:

W. E. Emley, of the U. S. Bureau of Standards, has been appointed to represent Committee D-13 on the new section on Calibration of Testing Machines and Apparatus, which will function under Committee D-1. W. H. Whitcomb, secretary of Committee D-13, has been appointed publicity representative to prepare news items on the committee's activities for publication in the *A.S.T.M. Journal.* B. H. Foster, of U. S. Rubber Co., who represents the committee on the general membership committee of the society, reported that Committee D-13 now has 152 members, as against a peak of 184 in 1927.

Particular interest attached to the announcement of the symposium of textile papers to be presented at one of the general sessions of the society at its annual meeting at Atlantic City in June. A committee on papers, headed by Dean Harvey, of Westinghouse Electric & Mfg. Co., is developing a comprehensive program for this symposium. Since election of officers of Committee D-13 will take place at the June meeting, a nominating committee has been named comprising B. L. Whittier, of Mt. Vernon-Woodberry Mills, chairman; A. E. Davieau, of U. S. Testing Co., and L. A. Graybill, of Bibb Mfg. Co. A committee named to recommend a place for the October meeting includes B. H. Foster, chairman; C. B. Finckel, of J. H. Lane & Co., and H. J. Jaquith, of Minot Hooper & Co.

Activities of Subcommittees

As usual, the reports of the subcommittees indicated not only that most of the hard work of Committee D-13 is being done therein but that the hope of effective results rests in their activities. Among the items of progress reported by subcommittee chairman were the following:

In connection with Section II on Cotton Yarns and Threads, of subcommittee A-1 on Cotton, a few revisions have been proposed for the Standard Specifications for Tolerances and Test Methods for Cotton Sewing Threads. It was voted to submit these to letter ballot.

Russell T. Fisher, chairman of Section III on Light and Medium Cotton Woven Fabrics, reported that his subcommittee has been considering the inclusion of a shrinkage test in the general specifications for those types of fabrics. The shrinkage specifications developed by both the American Association of Textile Chemists & Colorists and the Federal Specifications Board have been studied and decision is postponed pending revision of these two specifications now in progress.

Section IV on Tire Fabrics has worked out a specification for adjustment of regain against shipment, and also a method for calibrating a cord testing machine. The addition of both these to the Specifications for Tolerances and Test Methods for Tire Cord, Woven and on Cones, was recommended and will be submitted to letter ballot. In addition, B. H. Foster, chairman of this section, stated that work is under way to develop specifications on holland cloth used in the rubber industry and that it is hoped to submit tentative specifications at the June meeting.

Prof. H. J. Ball, chairman of Committee D-13

Kenneth B. Cook, chairman of local committee on arrangements for D-13 meeting

Tentative specifications on Tolerances and Test Methods for Tubular Sleeving Braids have been developed by Section VI on Narrow Fabrics, of which F. S. Mapes is chairman. It was voted to submit these to letter ballot.

As a result of a joint meeting of Section I on Rayon and Section II on Rayon Fabrics, both of Subcommittee A-2 on Rayon, of which A. M. Tenney is chairman, minor revisions in Tolerances and Test Methods for Rayon were proposed and will be submitted to letter ballot. It was also stated that it was considered desirable that a wet strength test method be added to the rayon test methods and that present laboratory methods in this regard are to be reviewed with the object of presenting them at the next meeting of the subcommittee for further consideration. In addition, a special committee has been appointed to report on existing methods for determining the oil content and moisture content of oiled rayons.

It has been decided to push actively the formation of Subcommittee A-3 on Wool. G. E. Hopkins, technical director of Bigelow-Sanford Carpet Co., is in charge.

Tentative specifications on asbestos roving will be prepared by J. M. Weaver, chairman of Subcommittee A-4 on Asbestos, and considered at the next meeting.

Since no recommended changes or criticisms of Specifications and Tests for Cuban (Jute) Raw Sugar Bags have been received, it was proposed by A. E. Davieau that these be advanced to standard. This question will be submitted to letter ballot.

Progress is being made in the organization work of Sub-committee A-7 on Silk.

W. D. Appel, chairman of Subcommittee B-1 on Methods and Machines, reported that his subcommittee has decided to undertake a thorough revision of Tentative Methods of Identification of Textile Fibers and Their Quantitative Determination in Mixed Goods; also a revision of certain phases of Standard Methods of Testing Woven Textile Fabrics.

Revision of Definitions of Terms Relating to Textile Materials is being undertaken by Subcommittee B-2 on Nomenclature and Definitions.

The most important matter occupying the attention of Subcommittee B-3 on Knit Goods is the question of the comparative merits of two methods of burst test on knitted fabrics. Abstracts of the paper presented by Prof. Haven on this subject will be distributed to members of this committee for careful study.

Methods for determination of copper in fabrics of cotton and wool are being considered by Subcommittee B-4 on Bleaching, Dyeing and Finishing. In this connection, Mr. Tenney suggested that this work be extended to include rayon fabrics.

W. H. Whitcomb, secretary of D-13, appointed publicity representative

1931 Cotton Crop Held Inferior

Many members participated in the discussion of the alleged inferiority of the 1931 cotton crop, as compared with the 1930 crop, particularly with regard to tensile strength and in connection with staple lengths of $1\frac{1}{16}$ in. and over. Leonard Kleeb, Jr., agent of Pepperell Mfg. Co., stated that his organization had been conducting research work on this matter since a gradual and definite reduction in breaking strength had been manifest as the old crop worked its way out of the mill. Cross-sections of yarn made from the cotton of the two crops showed that there were more fibers of oval appearance, apparently somewhat collapsed, in the 1931 crop; also that the number of fibers in a unit are generally less in that crop. His organization has been working on the theoretical assumption that fewer fibers per unit of cross-section may account for lower breaking strength.

It is hoped that the results of questionnaire will make possible accurate data on the quality of this year's crop as compared with the crops of the last two or three years.

One of the interesting contributions brought to the meeting was a summary of observations made in textile mills abroad by Thomas Hagan. Incidentally he pointed out the need of standardization in test methods and machines in Europe similar to the work being undertaken by Committee D-13 in this country.

Mr. Hagan made the prediction that the mill of the future will have fewer processes and greater speeds.

Today Most Textile "Secrets" Are Undiscovered Knowledge

By Charles H. Clark

Secretary, U. S. Institute for Textile Research

◆ *In his address last Thursday at the banquet of Committee D-13 of the American Society for Testing Materials, Mr. Clark did more than present an irrefutable argument for fundamental textile research. He himself offered the results of some very valuable historical research. His orderly review of major inventions in the industry enables an understanding of their significance which would be difficult to secure without months of exhaustive reading. Consequently his address, in large part, is printed herewith.*—Editor.

THE industrial revolution wrought surprisingly few changes in basic principles of spinning and weaving, and even fewer in the basic principles of the other old industries; furthermore, a careful study of the great textile inventions of that period and of their inventors fails to disclose conclusive evidence that any of the latter had the advantage of scientific training, or that any of these inventions qualify as the products of scientific research. Many of these inventors, in fact, had had no prior connection with the textile industry, and most of those who were textile men were merely skilled spinners, weavers or other artisans.

John Kay, who invented the fly-shuttle in 1738, was a hand-weaver, and so was his son, Robert Kay, who in 1760 invented the drop-box. Sir Richard Arkwright, who is credited with the invention in 1769 of the water spinning frame, and who was later legally despoiled of his patent, was a barber by trade; but his ingenious mechanical frame of mind impelled him to abandon cutting hair for spinning cotton, and his business ability aided him in amassing a large fortune. Arkwright embodied in his machine the flyer invented by Leonardo da Vinci, a 15th century artist, and the drawing rolls, whose invention in 1739 is variously credited to Lewis Paul and John Wyatt, but by British historians is generally credited to the latter because Paul was a foreigner. It is not impossible that he was an American, for British historians of the late 18th and early 19th centuries displayed a peculiar pleasure in hiding the identity of American inventors and inventions. However, Lewis Paul has sufficient fame as the inventor in 1748 of the cylinder card for wool and cotton, but there is no evidence that he was anything but a skilled mechanic.

James Hargreaves, who in 1770 invented the spinning jenny, was a hand-weaver who visualized the possibility of operating a spindle vertically when a high wheel that had been tipped onto its right-hand side continued to run freely. Samuel Crompton, who invented the cotton mule in 1779, was a hand-spinner of unusual mental equipment, but could not by any stretch of imagination be termed more than a skilled technician. The Rev. Dr. Edmund Cartwright, who invented the power-loom in 1785, had never seen a hand-loom in operation until after his first model was finished.

Chemical Developments Also Empirical

In contributions of non-textile men, and in the preponderance of try-and-reject methods, the initial development of the chemical processing end of the textile industry during the industrial revolution was closely parallel to that of the spinning and weaving branches. Cylinder-printing was invented in 1788 by a Scotchman named Bell who must have been a clever mechanic as well as a block-printer. Discharge-printing was also of Scotch origin, and by further try-and-reject methods was perfected by Peel & Co., famous cotton printers of Church, England. Resist-printing was invented by a man named Crouse, a traveler for a London firm of chemists in 1802, who was credited with "possessing little practical and less scientific knowledge." Transfer-printing was invented in 1808 by Jacob Perkins, an American inventor of a similar process for the duplication of plates for printing bank notes.

We know that Eli Whitney who invented the cotton gin in 1794 was something more than a skilled mechanic, but he had never seen cotton ginned by hand until he went to Charleston, S. C., that year, and he was connected in no way with the textile industry. Samuel Slater, father of the cotton mill industry in this country, who started business in Pawtucket, R. I., in 1790, was a skilled technician and a machinist—who, like Francis Lowell, who with Patrick Jackson started the first complete cotton factory system in Waltham, Mass., in 1812—smuggled from England mental pictures of textile machinery, thus evading the embargo on the exportation of such machinery. It is possible that Charles Danforth, who invented the tube-frame, or speeder, in 1824 and the cap spinning frame in 1828 was more than a skilled machinist; at least, he had the business ability to later accumulate a fortune as a textile machinery builder in Paterson, N. J. John Thorp, who also took out a cap spinning patent in 1828 and invented the basic principle of ring spinning the same year, was merely a skilled technician and machinist.

Since the first quarter of the 19th century the basic principles of spinning and weaving, of bleaching and printing have persisted. During the last 75 years the development of radically new processes has been greatest on the chemical side of the industry, and with few exceptions the most important of these discoveries have been the product of scientific research by men outside of the textile industry. Coal tar dyes, mercerization, and synthetic fibers are striking examples.

The development, during the last 50 to 75 years, of the mechanical and physical side of the industry has been mainly in the refinement of machines and processes, making possible greatly increased production and marked reduction of manufacturing costs. The nature of these improvements is too well known to textile men to require review here.

Scientific Knowledge Not Utilized

It has been shown that the great textile inventions of the industrial revolution were mainly the product of skilled machinists whose inventive methods were those of the try-and-reject character, and that a surprisingly large number of these inventions were the product of men having no direct connection with the textile industry. It has also been indicated that most of the basic textile discoveries and inventions that were the result of scientific research must also be credited to non-textile men. I think most of you will also agree that in these respects the physical and chemical development of the industry during the last half century has differed but little from that during and immediately following the industrial revolution.

Well, what of it, you may inquire? And I echo the sentiment insofar as it concerns the manner in which the industry attained its present marvelous mechanical and chemical development. I do so notwithstanding evidence that textile manufacturers then as now failed to take full advantage of

the scientific knowledge available, and failed individually and collectively to take full advantage of the opportunities to increase that knowledge.

President Hoover has stated that "unless pure science fills up the reservoirs of basic knowledge, in order that the mental equipment of humanity as it exists today can use it, the pace of our development may slow down during the century to come." It is equally true that unless an industry applies the results of pure science and itself maintains a constant flow of new fundamental knowledge the pace of its development must slow down. It is unnecessary to attempt to review the enormous expansion in scientific knowledge during the last half century. It should also be unnecessary to produce the detailed evidence proving that the textile industry has failed to make equal scientific progress and has failed to take full advantage of the scientific tools that have been available. Mechanically it is as highly developed probably as most of the modern industries. It might be demonstrated that its basic knowledge of fibers is no more incomplete than that of the electrical industries of electricity, but the striking difference between the textile industry and other modern industries is in its apparent indifference to research for new basic knowledge.

Ways to Meet Emergency

Meanwhile, automatic machinery, labor saving methods in its operation and highly efficient mill management have expanded the productive capacity for existing products of practically all branches of the industry beyond any but abnormal consuming demands. There are at least three methods of meeting such an emergency: One is cooperative efforts in balancing production of existing products to the demand for them with the objective of controlling prices; another is cooperation in scientific research with the objective of developing a sufficiently large variety of salable new products to provide work for a large part of existing machinery, and to render obsolete that part of existing equipment that cannot be profitably employed upon old and new products; the other is more efficient merchandising.

It is illegal to cooperate for the control of production and for price fixing if anti-trust laws are literally interpreted and enforced, but it is not illegal to cooperate or to combine for the development of new basic knowledge that may rehabilitate the industry and be of equal advantage to manufacturer and consumer. It is not illegal to improve merchandising methods, but without something new in fabric, finish or design, or without the development of new uses for existing products, the merchant is practically powerless largely to increase sales; moreover, the merchant and the industry must expect to face a further expansion in production due to improved management methods and to plant re-equipment.

Attention has already been drawn indirectly to expansion in sales of new products and to displacement of old products by fast dyes, the mercerization process and synthetic fibers. It is impossible to predict what in the way of new textile products and finishes might result from scientific textile research, but we know that scientists in various parts of the world are engaged in attempts to synthesize wool and silk from protein bases that, unlike rayon, could be chemically processed the same as the natural fibers. We may be confident that rayon far superior in strength, elasticity, and other desirable properties will eventually result from continued scientific research. We can be assured that research on the natural fibers eventually will provide sufficient knowledge regarding their chemical and miscelle structure to make possible more efficient and controlled processing and also disclose new yarn and fabric finishes.

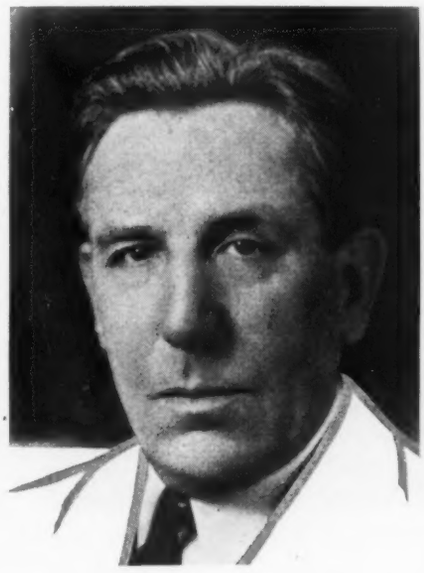
The literature of textile machinery is much more complete than that of textile fibers, yet we know little of what actually takes place in the cotton card and less regarding the drafting process in the other preparatory processes and the spinning frame. Lacking this knowledge there can be no efficient control of fibers in the drafting processes.

It is possible that the thousands of inventors and ingenious mechanics who have contributed during some 150 years by try-and-reject methods to the improvement of cotton machinery have progressed as close to perfection as might have been possible by scientific methods in a shorter time. But, while this may be true, I can find reasonable ground for doubt in the fact that the modern perfected machine system of cotton spinning has failed completely to duplicate one of the three basic principles of hand spinning, and to approximate that principle has been obliged to utilize a set of 10 to 15 distinct machines, with the same number of draftings and an enormously greater number of doublings.

I realize that in linking the possibilities of scientific textile research with such a practical everyday process as cotton spinning, the basic principles of which have not changed in a hundred years, I am courting the charge of being visionary or mentally unbalanced. I will therefore refrain from advancing theories as to the possibility of producing strong and even yarns and fabrics without twist, of producing fabrics for industrial and other uses without weaving, of greatly improving and expanding the wool felting process for production of fabrics without spinning or weaving, and of mentioning other textile possibilities that would cause the average practical textile man to classify scientific research as a modern form of alchemy.

I cannot refrain at this point from taking a crack at those practical textile men who regard scientific textile research as theoretical bunk. Certain men of this type engaged in cotton, worsted and spun silk manufacture have been wont to claim that if they could be assured of an adequate supply of staple of any desired length and fineness they would show the cock-eyed world yarn that is yarn. Now in cut rayon staple they have available almost any desired fiber length and fineness, with, of course, the characteristic limitations of rayon as compared with natural fibers. But, have these practical manufacturers studied this new raw material in a practical or scientific manner with the objective of selecting just the right length and fineness of staple to produce a yarn of just the right number, evenness, strength and other qualities? If they have, the result is jealously guarded.

(Continued on page 29)



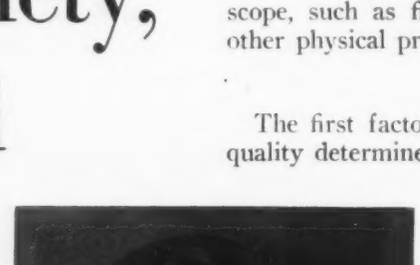
Charles H. Clark

"There is convincing evidence for the open-minded man that technical progress of the industry depends not only upon adequate utilization of scientific methods, but upon cordial cooperation between the industry's staff of practically and scientifically trained men. Each has something to give that the other usually lacks, and for either to refrain from giving freely is to mark him as a 'poor mixer,' or as jealously guarding fancied secrets. If the former, he is unfortunate; if the latter, he is a back-number. There are few textile secrets today that are other than undiscovered knowledge."

Spinners Should Pay More Attention to Cotton Variety, Origin, and Growing Conditions

By H. H. Willis

Director, Textile Department, Clemson College, S. C.



H. H. Willis

◆ *Any research in raw cotton to be of value, declares Mr. Willis, must be "based upon known varieties upon which a thorough check has been made from the growing season through the ginning season. Test cottons are not comparable unless grown, harvested, ginned, and manufactured under like conditions." Naturally these influences are of great importance in spinning, as Mr. Willis explains. This paper was presented by the author before Committee D-13, the textile committee of the American Society for Testing Materials, at its meeting in Providence, R. I., last week.*

THE spinning quality of cotton, the deterioration of cotton fiber, causes and possible remedies for this deterioration, and the need for more cotton research are being frequently called to our attention through newspapers and technical magazines. Opinions as to the best method of attacking these problems vary. It is my purpose to discuss with you from the spinner's viewpoint some of the factors which influence spinning quality of cotton and to give you some results taken from some 600 tests which the speaker conducted for the U. S. Department of Agriculture in cooperation with the Clemson Textile Department, Clemson College, S. C.

The term "high spinning quality" as applied to cotton implies primarily three things: first, that the yarn spun from the cotton possesses strength, uniformity, elasticity, and brightness; second, that the cotton has a minimum amount of short fiber; and third, that but few ends are broken while the yarn is being spun.

The three qualities in yarn most desired by every spinner are (1) strength, (2) uniformity, and (3) good finishing properties. In order to produce yarn possessing these characteristics, the spinner must select cotton of high spinning value.

The chief factors generally agreed upon as determining spinning quality in cotton fiber may be divided into two classes; first, those discernible by the cotton classer or manufacturer, such as grade, length, and character, the term character including such qualities as fiber strength, body, and uniformity; second, those factors that may be detected only by the use of the microscope, such as fineness of diameter, convolutions, and other physical properties.

Grade

The first factor named, that of grade, is a composite quality determined largely by color, foreign matter, and preparation or ginning. The color classification includes blue and gray, which are due to exposure in the field after opening, and yellow, which is largely the effect of frost and soil stains. If the cotton is either gray or blue stained, its bleaching and dyeing qualities are reduced. It is unsuitable for delicate tints. If the cotton is yellow tinged or stained, its finishing qualities are not noticeably affected. Colored cotton, however, is generally less desirable for gray goods than is white cotton.

The amount of foreign matter is determined by the weather during the picking season, by the method of harvesting, and by the cleaning equipment of the gin. In cotton manufacturing large trash is removed as waste, thus reducing the net weight of spinnable cotton, whereas some of the small or pin trash is spun into the yarn, thus reducing its quality.

Preparation as a factor determining grade in cotton has reference to the mechanical conditions of the gin, the speed of the saws, the density of the seed roll, and the amount of moisture in the seed cotton at the time of ginning. Gin damage to cotton increases the amount of waste and makes the yarn irregular both in strength and in appearance.

Grade is a significant factor in spinning quality in that the strength of yarn has a tendency to increase from the lower grades to the higher grades. However, yarns spun from individual bales of cotton of the same grade may differ materially in strength even though manufactured under identical conditions. Such differences in strength are attributable not only to the conditions under which the particular cottons were grown, harvested, and prepared, but also are due in part to varietal characteristics.

Staple Length

A second factor in spinning quality is that of staple length. Spinning tests indicate that the length of staple accounts for approximately 80 to 90% of the strength of the yarn. Short staples are suitable only for coarse yarns, whereas finer yarns demand longer staples.

Character

A third factor designated as "character" includes strength, harshness, fiber diameter, and uniformity. The

results of our tests indicate that about 8 to 10% of the strength of yarns is due to the strength of staple. The factors influencing harshness are unknown; however, harsh cotton is generally used for warp yarns. Uniformity in fiber length and strength is very essential to high spinning quality. Tests indicate that irregular staple increases waste, causes high end-breakage in spining, produces yarn irregular in diameter and strength.

It is not wholly reliable to base conclusions as to the quality of a yarn upon average strength alone. Two yarns may be approximately equal in average strength but may be widely different in quality because of differences in uniformity of either size or strength. To illustrate: Two cottons, *B* and *K*, of the same grade and staple were spun into yarns having an average strength of 97.8 and 98.6 lb. respectively, a difference of less than 1% in average strength. Yet *B* was vastly inferior in quality because of its lack of uniformity. Approximately 14% of the *B* yarn broke lower than the lowest *K* yarn. The lowest break in yarn *B* was 89 lb. whereas the lowest break in yarn *K* was 94 lb. (See accompanying table.) It is these low breaks which give the manufacturer concern. When considerable tension is placed upon the warp in weaving, these weaker threads break, since they are unable to carry their share of the load. As they break, loom stoppage occurs, production is reduced, and machine-hour cost is increased.

Such factors as staple length, strength, and uniformity are presumably varietal characteristics which are influenced materially by type of soil, and by cultural and weather conditions. Cultural conditions, aside from the weather influences, are largely within the control of the grower. Varietal characteristics also are to an extent within the control of the grower in that such characteristics are largely predetermined in the seed, and the grower may select for planting a variety which has proved superior both from the standpoint of production and from that of spinning quality.

The variety selected for planting, the place grown, and the cultural, weather, and ginning conditions in large part determine the spinning quality of cotton. Cottons similar in grade and staple may differ materially in spinning utility and yarn uniformity. To illustrate, the speaker tested four cottons of different varieties:

Grade, Staple, Average Strength of 22s Yarn, and Highest and Lowest Breaks per Skein

Lot Number	Grade	Staple Inches	Average Strength (50 Skeins) Pounds	Highest Strength Pounds	Lowest Strength Pounds
1	S.M.	$1\frac{1}{16}$	109.70	122.0	97.0
2	G.M.	$1\frac{1}{16}+$	94.00	102.8	84.0
3B	S.M.	$1\frac{1}{16}$	97.80	103.0	89.0
4K	S.M.	$1\frac{1}{16}$	98.60	103.1	94.0

The foregoing seems to be evidence that the manufacturer in selecting his cotton should pay more attention to the variety of cotton and the place and conditions under which it is grown. Tests have shown that the spinning utility of cotton can be judged with a fair degree of accuracy by knowledge of variety, the growing season, and the soil conditions. It is my opinion that leading mills will eventually have a field specialist with some knowledge not only of manufacturing but also of cotton production whose duty it will be to keep the mill management advised as to where the better cottons are being grown so that the mill may select its cotton from such districts.

The mechanical and moisture conditions under which cotton is manufactured have considerable effect upon its spinning quality. Again the variety of the cotton—its physical and chemical properties—plays an important part. To illustrate, two varieties of cotton of the same grade and staple when placed in the conditioning room with the same relative humidity for the same length of time may show as much as 1.5 to 2% difference in regain. Again two varieties of the same grade and staple may draft differently in manufacturing. To illustrate, the machines may be so set as to produce a certain size sliver from a given variety of cotton. With the second variety it may be necessary to change the draft gears from one to two teeth in order to produce the same weight silver as was produced from the first variety.

Variety has more influence upon the strength of the yarn than is generally believed. There are those who have advanced the theory that the strength of yarn is in proportion to the length of the staple. This theory will not hold in many cases. (See table.) I have tested varieties of $\frac{7}{8}$ in. staple which produced 22s yarn with a strength of 97 lb. per skein as compared with other varieties of $1\frac{1}{16}$ in. staple which produced 22s yarn with a strength of from 94 to 98 lb.

To be of value any research in raw cotton should, therefore, be based upon known varieties upon which a thorough check has been made from the growing season through the ginning season. Test cottons are not comparable unless grown, harvested, ginned, and manufactured under like conditions. It is the only way in which variables may be reduced to a minimum, since differences in weather, in soil, and in ginning conditions have considerable influence upon spinning quality.

Your committee on raw cotton has been unable to make as much progress as desired because we have found it both difficult and expensive to obtain known samples of raw cotton on which to conduct tests. Within the next year we hope to be able to have worthwhile results.

Today Most Textile "Secrets" Are Undiscovered Knowledge

(continued from page 27)

I am not going to bore you with a detailed description of the manner in which a manufacturer of trained scientific mind would approach and solve a new problem of this kind—for it is a new problem. Suffice it to say that, with a staple of any desired length selling at the same cost per pound, plus the normal price difference for denier, he would be most interested in designing yarns that would meet a ready demand at a reasonable profit and that would be in a class apart from existing staples. He would then design special machinery for their production, or select from existing textile machinery equipment that would approximate the desired result. He would then, I feel certain, consult with manufacturers of rayon staple as to the possibility of improving their product and developing staple of cross sectional character, denier and other qualities that would broaden the market for such yarns and fabrics.

In all this there is convincing evidence for the open-minded man that technical progress of the industry depends not only upon adequate utilization of scientific methods, but upon cordial cooperation between the industry's staff of practically and scientifically trained men. For either to refrain from giving freely is to mark him as a "poor mixer," or as jealously guarding fancied secrets. If the former, he is unfortunate; if the latter, he is a back-number, for there are few textile secrets today that are other than undiscovered knowledge.

Adjusting Lay, Protection, and Picking Motions of The Loom

By Benjamin F. Hayes

◆ *The loom, being probably the most difficult machine in the mill to adjust, has been subject to much experimentation by loomfixers. In this way some very worth-while tricks in regard to adjustments have been discovered; and, on the other hand, some fixers have tampered with essential parts in such a way as seriously to impair the efficiency of the machine. The author of the accompanying article points out where errors are often made and describes how best to adjust accurately and correctly some of the essential motions. Among other things he outlines a foolproof method of putting on a new picker and describes a method of obtaining maximum service from the filling stop motion.*

THE position of loomfixer, whether on cotton, woolen, worsted, silk, or rayon, is one of the most important in the mill. The loomfixer is to the loom what the doctor is to the patient. In a comparison of the two situations, however, the doctor has considerable of an advantage in that he can question the patient and thus enlist his assistance in determining the cause of the trouble.

There can be little question that the loom is one of the most difficult machines in the mill to fix. At one time I was asked to give an opinion as to which was the most difficult to fix—the loom or the mule. I answered that, as the mule seldom repeats its motion more than four times per minute and the loom seldom less than 100 times per minute, the fixing of the mule is considerably simpler. In other words, we can conveniently watch each movement of the mule and determine whether any one is not functioning correctly. We cannot gain anything by watching the movements of the loom; they are too quick for the eye. Good loomfixers must know every movement of their machines and must be able to detect any part that is out of order without starting up the machine.

Driving Mechanism

In a consideration of the various mechanisms of the loom, probably the most natural procedure is to discuss first the driving motion. Probably the two primary requirements of any loom-driving mechanism are quick starting and quick stopping. Let us assume that we are driving by an end countershaft. This countershaft must hold its position, or we do not obtain the proper friction. I have known loomfixers of long experience that did not know how to adjust this countershaft correctly.

To Get a Quick Stop

I once encountered a very good fixer who was having a great deal of trouble with a loom in that it was not stopping quickly enough. The only way in which he could secure the proper speed in stopping was to reduce the friction to such a small amount that the loom would not run up to speed and would not start quickly enough to drive the shuttle across the lay. I was asked to see what I could do, and my first step was to reduce the friction to a considerable extent; but I also replaced the fiber plug on the end of the countershaft with a thicker plug. This caused every bit of friction that was applied to count for power, and by this simple method the loom was made to start and stop quickly and to run at the designated speed. Before this change was made, the countershaft would move as the friction was applied and also as it was relieved.

Of course we must not carry this too far and make the loom so stiff that it is not convenient for a weaver to move the lay by hand power, but we should carry it far enough to make the loom stop in any desired position. It is also good practice to remove the friction pulley at such times as the loom is idle when waiting for a warp, etc., and to clean all the grease from the pulley. Sometimes it is not necessary to use a new plug, good results being obtained by packing the casting on the end of the countershaft so as to take up any slack which may be present.

Lay Motion

Let us now consider the lay motion. The lay is fastened to the rocker casting on the bottom of the lay ends, two bolts being provided to secure them. If at any time we have trouble with the protection of the lay, before doing any fixing we should inspect these rocker castings to see that the lay end has not risen. If in doubt, loosen up these two bolts; and the lay end will then drop down in place. Constant banging will sometimes raise up the lay end in this manner. Should we desire to lower one end of the lay so as to make both protector daggers level, we can do this by cutting off some of the projection on these rocker castings.

The crank arms which impart motion to the lay used to be constructed of wood, but iron is fast replacing this material. So much depends upon the movement of the lay that it is essential that this movement be as nearly correct as possible. The advent of automatic and magazine movement makes it all the more essential that the lay movement be accurate, for it is the movement of the lay that determines the automatic transfer of the bobbin.

To compensate for the wear of the crank arms, which previously gave considerable trouble, these parts have been made adjustable to a slight extent. One manufacturer has provided an eccentric bearing on the front of the crank arm, and by means of set screws this can be turned so as to increase or diminish the forward movement of the lay.

A correct understanding of the timing of the lay is one of the most important pieces of knowledge which a loomfixer can possess. The lay will not, of itself, get out

of time unless gears or the loom frames are broken; but some loomfixers will set the lay too early and others will set it too late.

A good general rule for setting the lay is to have the crank on top center as the picker stick is just about to start moving forward. This is particularly true of looms having a 72-in. reed. With less reed space, we can set the lay one tooth beyond top center. The smaller the reed space, the shorter the distance the shuttle must travel, and hence the later we may start it. It is impossible, however, to start it *before* the crank reaches top center.

Perhaps it would be well to make sure that such terms as top center and back center are clearly understood. Top center indicates that the bearing of the crankshaft is at its highest position, bottom center indicates that it is at its lowest position, back center means that the bearing is at its furthest position from the front of the loom, and front center means that it is at its nearest position.

Protection-Motion

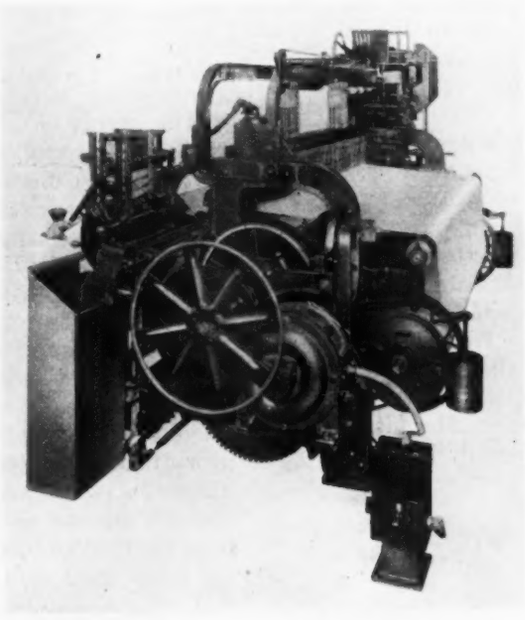
When the power loom was first invented, it very soon became apparent that the loom must have some means of protection, or a great many smashes would occur. The first means of protection which was provided consisted of a loose reed, so that in case of the shuttle's stopping in the shed, the reed would slip out of place rather than make a smash. The modern method of protection, however, is much more desirable, giving protection through a simpler mechanism and with more dependability.

Most modern American and English looms avoid smashes by means of protection rods. These rods pass the entire width of the loom between the shuttle boxes, some looms protecting by rising movements and others by dropping movements. The principle, however, is practically the same. I shall illustrate by means of the Crompton & Knowles loom.

The protecting daggers must be in perfect line with each other, for if one dagger protects and the other does not, we shall have both smashes and broken lay ends. Some protecting rods are adjustable, and others are not. If we meet with the latter type, we must adjust by twisting the protecting rods.

In order to determine whether or not the protecting daggers are level with one another, we take the shuttle out of the box and pull forward the lay until the daggers are both underneath the casting of the breast beam. Both daggers must come flush with the casting underneath the breast beam when the dagger has just passed the frog; and if either of the daggers flushes with the front side of this casting, it is too high. The fact that the daggers are too high might lead us to believe that we shall surely get good protection, but this is an erroneous assumption. We shall have faulty protection just as much with high daggers as when they are too low, and it may be further pointed out that the former condition is more difficult to determine than the latter.

I well remember a case in which a bad smash had occurred on a loom which was weaving with 5s worsted warp. It took the weaver about six hours of tedious work to fix the smash, and the fixer claimed that the protection motion was working properly and would have started the loom again without further investigation. He pulled the lay forward by hand, showing me that the protector could not slip by, and it surely looked as though he were correct. But in pulling back the lay, I noticed that the dagger came flush with the castings as previously mentioned. When operated by hand power the protector would never slip by; but when the loom was operated under its own power, the speed was so much greater that one little touch by the dagger against the casting would cause both daggers to jump the frog, allow the lay to bang up, and make a bad smash.



Quick starting and stopping are primary requirements of loom-driving mechanisms

The protecting rods are controlled by the binders in the shuttle box. When using several shuttles, it is essential that all binders have the same relative bearing on the protection fingers. The boxes should be so adjusted as to work with the protector equally well whether the shuttle box is moving in one direction or the other.

Picking Motion

We now come to the noisy part of the loom—the picking motion; and I shall dwell only with the under-pick method. Only English looms are using the over-pick method at the present time.

There are so many different types of picking shoes that it makes it impossible to state any hard and fast rules for setting this motion. However, it is a good practice to use as much of the surface of the shoe as possible. Loomfixers seem to take a delight in designing picking shoes according to their own ideas. The loom manufacturer is undoubtedly the best authority on this subject, and time and money will be saved by referring to him.

We shall now consider the sweep of the picker stick. There are many good devices on the American market used for sweep-strap support. In many places, however, we still see the simple power strap in use. Sometimes we find one strap to hold the sweep strap up and another to hold it down. If we are looking for a sweep-strap support that will be lasting and easy to adjust, then I must confess that it is often advisable to look to other sources than the loom manufacturer for a satisfactory arrangement. We must design our sweep-strap connections so that they will slip rather than cause picker-stick breakage.

It is a good plan, in adjusting this motion, to provide as long a sweep of the stick as is possible without damaging the picker. One may ask why a long sweep is advantageous. Let us look carefully at the position of the picker stick just as it starts to move forward. Suppose that the stick connects with the picker at a point 2 in. from the top of the stick. If we pull the stick forward by hand until we have covered half the sweep, we shall find

that the point of connection between the picker and picker stick is about ¾ in. lower than when we started. Now as the stick is moved forward again, this point of contact moves in the opposite direction. If all our energy to drive the shuttle is borne by a movement in only one direction of contact of the picker with the picker stick, it will be seen that the stick will be subject to much more wear than if the wear is taken up in two directions—hence the importance of this adjustment.

Replacing Picker

The replacing of a worn or broken picker would seem to be a task which could be accomplished by any man who ever laid hands on a shuttle. However, this is far from true; and I know of many loomfixers of years of experience who do not yet know how to replace a picker in the proper manner. Short picker-stick life and worn picker spindles are directly traceable to the fact that pickers have not been installed correctly.

The first step in placing a new picker on a loom is to take out the picker spindle and the check bunter. Then place the picker in position, and look over the picker spindle. If the latter shows any signs of wear, obtain a new spindle; as it is very costly to use picker spindles that have started to wear down. Place the picker spindle in the outside bracket, but do not insert it in the inside bracket. Tighten up the spindle with the forward point as near to the inside bearing as possible without bringing it flush with the bearing. Now see if the forward point of the picker spindle centers with the inside bearing. If it does, it is correct. If it does not center, we must make it do so without bending the spindle. The fact that this simple procedure has not been generally known has cost thousands of dollars in smashes, destruction of pickers, and loss of production.

Now that we have placed the picker on the loom, we must see that it centers with the shuttle. The shuttle points must strike the center of the picker face, both at the start of the movement of the picker and at the finish. Let us suppose we find that an impression is made in the picker face by the point of the shuttle but that it does not coincide with the shuttle point at the moment when the shuttle is just about to leave the box. This would indicate that the lay end requires truing up. Before truing up the lay end, it would be better to allow the loom to run until the warp is all run out. By that time, the shuttle will have made a much deeper impression on the picker, and we can be more sure about the necessity for truing.

We thrust the shuttle against the front box guide and bring the picker forward. If the shuttle centers with the hole already made in the picker, our lay end does not require truing. The hole in the picker being either too low or too high may be caused by the boxes not being even, but if the hole in the picker space is too far in or too far out to meet the point of the shuttle, we must true up the lay end. We could obtain practically the same results by bending the picker spindle, but such a procedure should never be allowed.

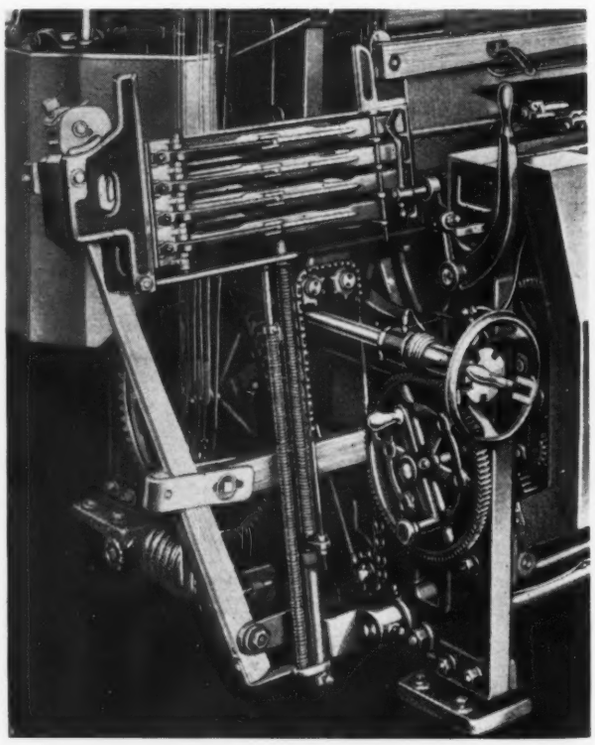
Fixing the Filling Stop Motion

The correct time to fix the filling stop motion is when the warp is out, and if we desire to make the correct adjustment, we must know what weave we are going to employ on the new warp. Let us suppose that the weave is going to be plain. We should then set the shoe as far forward as possible, or nearly so, as this will give us the greatest amount of leverage obtainable. However, we might first look at the main casting of the stop motion. This is adjustable up or down to control the distance that the feeler wires drop into the slot. The feeler wires should be set as near to the bottom of the slot as possible without quite reaching the bottom, and the knock-off dagger must then be resting on the main casting. If the dagger is not resting on the casting, we must loosen up the latter and bring it up against the dagger.

If our wires do not go the required depth of the slot, they will tear the cloth when the loom is stopped. However, we have a short, stiff spring on the filling stop motion that answers two purposes. It helps to press the broken filling down and will stop the loom with anything less than a complete pick of filling in the shed. It is possible, therefore, by careful adjustment of this spring, to cause the stop motion to act even though the filling breaks after it has passed the feeler wires.

Pressure on Feeler Wires

This spring of which I have been speaking is provided with an adjusting screw by means of which we can adjust the pressure on the feeler wires. If we use too much pressure, we will have kinks in the cloth; if too little pressure is applied, the stop motion will not operate on every pick that is incompleted. It should be noted in this connection that we can use more pressure on plain weaves than on other designs. The reason for this is that, in weaving plain, every harness is moving on every pick; and all warp threads are trapping the filling. Another good reason why maximum pressure of the spring should be used on this weave is that it is only on plain work that we are troubled with the feeler wires tearing the cloth. Of course, if our wires do not penetrate deeply enough into the slot, even this stiff spring will not prevent them from tearing the fabric.



Adjustment of sweep strap is important factor in governing picker-stick life

Earl Constantine

Hosiery's New Pilot

Will "Make Haste Slowly"

Earl Constantine

By John Black

Assistant Editor, TEXTILE WORLD

THERE is a new pilot at the helm in the American industry. After nearly a year of deliberation, the directors of the National Association of Hosiery and Underwear Manufacturers, two months' ago elected Earl Constantine to the post of managing director, succeeding John Nash McCullaugh, now general manager of Berkshire Knitting Mills. While he was a new figure to the hosiery industry at that time, Mr. Constantine has since made considerable progress toward familiarizing himself with this important division of textiles. March found him on an extended tour of the chief hosiery centers of the South and Middle-West; April will mark his first appearance at a convention of the association when that body holds its 28th annual session at Philadelphia.

Who is Earl Constantine? What are his policies? These questions are being asked by hosiery manufacturers throughout the country. With the aim of answering, the writer interviewed Mr. Constantine recently in the New York office of the association.

As for the first question, we will go biographical. Mr. Constantine is 46 years old, married, and a resident of New Rochelle, N. Y. A period as president of the Bonnie Briar Country Club, up that way, would seem to suggest that he has an athletic bent; probably it is golf. In person he is a man of medium height, steel-gray hair and a gray mustache; he is astute of manner, keen-sighted and suggests a banker in appearance. Indeed, the last-named trait was honestly acquired as his background includes wide financial experience. Mr. Constantine's career divides into two main fields: trade associational activity and international finance. He has long been a specialist in business control.

Textile leaders of Philadelphia already know him for his valuable work in helping to form the Philadelphia Textile Manufacturers Association. At that time he was assistant to the president of the National Association of Manufacturers, and as such the active managing executive of that body. He also served ten years as secretary of the National Industrial Council. More recently he went to Colombia, South America, as financial representative of Uhlen & Co., New York, bankers.

This, in brief, is Mr. Constantine's background. With regard to policies, in the specific sense, he has none. When we steered conversation to that point, he answered and also gave the key to the association's outlook in one brief phrase. He said: "My policy is to devote the first six months to absorption." Then he explained his attitude in detail. He is not a hosiery manufacturer; he knows nothing of technical detail in hosiery production. He aims at no overnight panaceas for the problems of the hosiery industry. But he knows the fundamentals which make for business success and he is confident these are just as applicable to hosiery as to any other American industry.

There is a subtle strength in this position, as the hosiery industry soon will find out. During the next few months, Mr. Constantine's chief purpose will be to ask questions. Immediate problems, of course, will be met and handled, but there will be a minimum of initiatory steps taken. He plans to make haste slowly.

The following paragraphs, jotted down during our interview, give a comprehensive idea of Mr. Constantine's general policies as shaped by him to date:

"Any new work done by the association in the future," said Mr. Constantine, "will be in the nature of supplementing the good work done in the past, not displacing it. Ours is an association of character, and will remain so.

"The industry has been so exceptionally busy in the last six or eight years and there has been so much expansion that it has not always been able to create and maintain all the contacts desirable between principals within the industry.

"More contacts and more conferences are bound to bring increased mutual confidence which is a prerequisite for any associational effort. It is this fundamental fact that is leading the administration of the association to plan for various conferences in which policies and practices will be discussed and improvement thereof sought.

"It is easy to think that an association can supplant management but in truth an association can only supplement management; it can do things private management cannot possibly do, but if it is wise it will recognize its own limitations. We are at the point where we must *move,* but we must move slowly and so keep our feet on the ground."

Reliance on Time-Worn Methods Retards Progress in

Waterproofing Textiles

SPIRITED discussion of the problems encountered in waterproofing textiles featured the recent meeting of the New York Section, American Association of Textile Chemists and Colorists which was reported briefly in the February 26 issue of TEXTILE WORLD.

Donald Martin of the Aqua-Seal Corporation, the principal speaker, cited adherence to conventional processing methods, lack of satisfactory tests, and cheapening of product to meet a price as the main factors which delay progress in waterproofing of textiles. It was brought out also that despite a real demand for a water-repellent finish, little has been done by textile men to develop a treatment which will give satisfactory resistance to water without sacrificing other desirable properties. Research is now being conducted however which may enable the production of water-repellent finishes which will not alter the appearance and handle of the fabric. Mr. Martin's remarks in part are as follows:

Unfortunately the term waterproofing is used to cover everything. Actually anything that can be termed waterproof is absolutely impervious to water and also to air: the term water repellent is applied to anything that will resist water but still is porous to air. The present processes employed by the various manufacturers in waterproofing textiles use as a base rubber, boiled oils and resins, tars and bitumens, casein, glues and sizes, tannin, aluminum acetate, metallic soaps, nitrocellulose, waxes, and cuprammonium hydroxide.

A fairly common method that is used today by the textile manufacturers is treatment with a wax, such as paraffin or carnauba wax, in conjunction with alum or petrolatum, whereby the cloth is impregnated and thereby rendered water repellent. Most of the waterproofings that are used on silks or other fine fabrics are some form of alumina, either the acetate or formate of aluminum, applied to a cloth, and fixed as an insoluble or metallic soap.

A drawback in connection with waterproofings is that the advantage gained by the water-repellent or waterproofing feature is counterbalanced by the fact that it changes the characteristic of the cloth. It discolors the cloth; it stiffens the cloth; it changes its characteristics; it tenders the cloth; and it does practically everything that it shouldn't do.

On silk, the water repellents used are based on aluminum acetate and insoluble or metallic soaps; and in the cotton field they have been based more on impregnations of waxes or cuprammonium hydroxide. On cottons, although manufacturers have used the wax-impregnation process, they have neglected the cuprammonium hydroxide, which in a good many respects has more beneficial results than the waxes, due to the fact that the copper salts are very highly anti-mold. Most of them are applied to canvas, either for haystack coverings, wagon coverings, or tents and awnings which are usually folded up and put away in a damp condition. With the average wax impregnation mold may set in. By using the cuprammonium hydroxide process, using the copper salt, the anti-mold feature overcomes that particular disadvantage.

The United States Government during the war set up a double test for the determining of the waterproofing of cottons used for tents, and of the many impregnations and coatings that were submitted. There was a difference of 500% in the degree of waterproofing of the materials tested; and in some cases the material that had the best waterproofing quality was offered at the cheapest price. This goes to prove, I believe, that with no determination as to the degree of waterproofing, no one can say whether it is too much or too little.

With many of the processes that are used, there is no distinct method of determining really how good they are. That is due to the fact that there has been until recently no standard to go by. This organization is the first one that has really set up a standard for determining the waterproofing or water-repelling quality of any product that might enter into textiles.

The market for a water-repellent process on silks, cottons, and woolens is large, if a process can be developed that does not alter the construction, or the feel, or the color of the goods, and still gives a really water-repellent or showerproof finish. From my contacts with buyers or actual retailers I have found that price is not the guiding factor, despite statements to the contrary on the part of manufacturers. The retailer has had so much grief with cheap merchandise, with inferior goods that have been offered, that if a product is offered which actually has merit, he will be interested in it, because the average buyer is perfectly willing to pay for it.

There is a lot of room for development in the proofing of textiles. There is an absolute demand for something that is new in the proofing of textiles that can be worked out on a practical basis, that can be worked out successfully in such a manner that you can offer it without having to give the alibi that in order to get this water-repellent property you had to sacrifice this, that, or the next thing. If it can be offered as an additional feature, I believe that the majority of manufacturers and converters will be pleasantly surprised when they offer that to the average user, to see what he will actually pay for such an article.

Following Mr. Martin's address, Dr. E. W. Pierce of Ciba Co., Inc., described a waterproofing compound which has been developed recently. In making this product paraffin wax is brought into a state of colloidal dispersion, so much dispersed that when the mass is cool, it forms a jelly. This dispersion is combined with a neutral acetate of alumina, forming a white jelly. The jelly is then diluted in warm water to produce a 20% solution, which can be applied on a quetsch, mangle, or padder. The goods are then dried, either on cans or on tenter frames. This treatment coats each individual fiber, leaving all the natural pores of the fabric open, so that the fiber loses its ability to become wet with water. According to the speaker, if the process is applied, say, on a transparent velvet, the nature of the fabric is unaltered. The hand is exactly the same as it was before the compound was applied.

Other members called attention to the Mandelburg process employed in England, to the growing use of latex compounds, and to a one-bath process developed in France. It was pointed out also that the problem of rendering fabrics both waterproof and fireproof is now receiving attention.

Patterns are ⅛ true size

Modern design of several years ago, which, although a good design, is not correct fashion

Feather pattern in pastel colors, a present good seller. Distinctly period which is now in fashion

Courtesy Cyrus Clark Co.

Red tulips on green ground has continuous appeal and is almost permanent fashion

DESIGN

As a Merchandising Factor

By Frances Cushing Hall

OF ALL the factors which go into merchandising, color and design are the most important these days. Fashion correctness must always be considered in industrial art and is the most important element after determining that a design itself is beautiful. It is the prime factor of saleability. Fashion is sometimes caused by changing conditions and sometimes by the natural love of change which all individuals have to a greater or less degree.

Fashion often is confused with style. Professor Nystrom's definitions, as found in his "Economics of Fashion," are: *Fashion* is the style at the moment and *Style* is a characteristic or distinctive mode or method of expression, presentation or conception in the field of art. To illustrate, we find in wall papers the Empire style, the Colonial, the Georgian, the Modern, etc. Right now it is the fashion to use the Colonial style as a basis for wall paper designs which will sell. There may be and probably is some sale for other styles, but it is the fashion to use Colonial so that will be the type of design to bring the important and quantity sales.

The rate of change of fashion depends upon the thing considered. In architecture the rate is slow, whereas in the color of women's gowns the change may occur in a few weeks time. Fashion follows a normal, cyclical course from inception, to a natural end unless some unusual outside happening, such as war, climatic change or catastrophe, interferes. In such an event the fashion is likely to continue at the end of the interruption as if it had not been there.

From the quantity manufacturer's point of view the time to have his merchandise ready for sale is at the rapid upward swing of the fashion cycle curve and he should have it entirely sold by the time the peak is reached. The designer must be ahead of this, for he has to furnish designs to the manufacturer in time to get out merchandise when the market demands it.

Fashion has proved itself so much more powerful than sales promotion that it is foolish to try to change it, as there is no possibility of success. Promotion cannot buck fashion, but when added to it the result is most satisfactory. It only pays to advertise those things which are fashionable.

The fashion in printed draperies in the last few years has changed from the pastel-colored Modern designs to the strong-colored Colonial type of today. The latter could not have been sold three years ago and the former have few advocates today. There is also the bread-and-butter style which continues from year to year with little change. This is represented by the bouquets of natural flowers of medium size. The popular colors in these designs vary, but the general style of the design remains pretty much the same. This fashion became so universally used and so appropriate for all manner of places that it is at present a permanent fashion.

Household decorative fabrics are likely to follow the real color trends, not the flares, of women's clothes. We have had for two years a decided brown fashion in women's wear and now are feeling that in wallpapers and draperies and even paint for interior decoration. The rate of change of fashion in the household arts is much slower so that it is only influenced by the color trends of some duration in the dress field.

Those who are ready to adopt new fashions have money and position, as they are able to discard an object if it proves undesirable for any reason and are not afraid of criticism affecting *(continued on page 58)*

Overseers' Round-Table

THIS department offers a new subject for discussion each week and gives readers' comments on problems introduced during previous weeks. The subject which was opened four weeks ago is closed this week and a summary of contributed ideas is given on opposite page

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Overseer as Teacher

Editor, Overseers' Round-Table:

IF THE overseer is a good teacher, that will be a good qualification, but it should not be considered an essential qualification to get a job in the mill as Bill seems to suggest. There have been great writers who were unable to speak as fluently as they wrote and it may well be said of an overseer who may be an excellent practical man but, may be lacking in the knack of imparting his knowledge to others, and for the latter sake the mill cannot well afford to lose him.

It would be quite practical and advantageous to explain to overseers some of the general principles of teaching, but then it must not come to just like teaching school-boys. A fair knowledge of teaching will be quite sufficient. By spending a little on this, the mill will be greatly benefitted. Not only will it have first grade overseers, but it will also have splendid and very efficient help who will be a great asset to it and an equally great credit to the overseers who trained them.

P. B. JOSHI,
India.

Starting the Boy in the Mill

Editor, Overseers' Round-Table:

THERE IS no question at all but that a father would want his son with him for a short time to teach him the tricks of the game. What a son learns from his father nobody can take away from him and he doesn't get discouraged so quickly.

However, after the boy gets so that he can pick things up for himself I would say let him get a job for himself in some new place. By then he has had a start and can take hold of the new job as though he were always on it.

C. J. S.

Editor, Overseers' Round-Table:

I KNOW that the forelady is usually taboo at the overseers' meetings. Why, I do not know, for I am sure their experience would be of use in many weighty things discussed at the round-table.

However, the Editor has asked for opinions on the advisability of the son working in the same mill as the father. This would naturally appear to be a question for fathers to write on, but I think that this is a subject an ex-forelady can write on too, both from the point of view of the mother and its effect on the home, as well as that of the mill.

I am thinking more especially of the son who has completed his apprenticeship. I do not think it advisable that a son should work at the same mill as his father, for, unfair as it may be, the latter is often blamed for any short-comings of the former. From middle age and onwards a man has far too many set-backs without having to shoulder those of his son. True, at that age he has that great asset of experience,

The Overseers Discuss

"I SEE that Joe's eyes are fairly glittering," Superintendent Chase remarked with a smile as the overseers gathered. "Come on, Joe, and tell us what is on your mind."

"Well," Joe started in, "I must admit that I'm mad enough to have my eyes glitter, or even pop and shoot out sparks. When I was sort of getting things straightened out this morning I found that two of the operatives were out. It so happened that I was going to try a few experiments today and I particularly wanted those operatives, but, even so, having operatives out unexpectedly always messes things up. I'll admit that there are times when the operative is really sick, but outside of such circumstances what can be done to keep down the number of absences in the department? I sure would like some help from you men on this problem."

"I'll tell you how to stop having operatives absent from work all the time," said Bill. "When these two come in tomorrow morning you find out whether they were really sick and, if not, tell them that they can turn right around and take a week's vacation without pay. If that doesn't cure them I'd give them a permanent vacation. Running a mill is a business proposition and if you begin to let operatives take a day off every time it looks like nice weather for a walk, or every time some friend of a friend gets married, you may have a nice sociable crowd in your department, but you won't turn out the work very fast. There is nothing worse than coming in in the morning and never knowing how many operatives you are going to find on deck, or how many machines you are going to be able to run. This is one of those things that gets worse if you show any signs of weakening. Of course, I'm all sympathy when an operative is out sick, but I just let it be known in my department that outside of sickness everyone is supposed to work every day."

Absences

"You sound a little more hard-boiled than usual," Pete came back, "but I can understand your getting het-up about this problem. I think, however, that I have a much better answer than your's, Bill. I know that there are going to be times when operatives are going to take a day off, even if they have to fib about being sick to get away with it, and, after all, it's the operative's own pay that is lost. The way I tackle the problem is to say that an operative can get a day or so off provided he or she lets me know a week or two in advance. In this way it allows the operative a certain amount of leeway and removes any impression that the mill is a heartless machine and, at the same time, it doesn't cause any trouble in the department, because if I know a week or so in advance that an operative is going to be out I can plan accordingly."

◆

What do *you* think is the best way to treat the problem of absences on the part of employees?

Overseers and others are invited to discuss this and other questions brought up in the super's talks. Letters accepted and published will be paid for without regard to length. Brevity is desirable.

but the manager notices the gradual coming of gray hairs, the walk is not quite so brisk, and perhaps the answers to questions do not come quite so rapidly as a few years back. I do not think any manager would consciously add to these disadvantages by noting that the man's son is usually late in the morning, or that his work is not up to par, but none-the-less these things are up against the father.

Looking at it from the son's point of view, to work in a mill where the father is employed is frequently unpleasant. Years of paternal duty and interest have so influenced the father that he does not realize that his boy is now at an age to think for himself. The son resents his father's well intended, but unwise interference concerning his general conduct and his method of doing his work. On the other hand, if the son gets along well with his father, and the latter holds executive rank, the men are sure to be suspicious and insinuate perhaps openly that "Junior" is being favored.

EX-FORELADY.

The Super's Qualifications

Editor, Overseers' Round-Table:

I AGREE with Bill that a super or manager should understand every department and every process in the mill in order to manage it successfully. A super who does not understand will want things done that the overseer knows are wrong and that, if done as the overseer is instructed to do them, will cost the company lots of money.

It is hard for the overseer with long experience to explain things to such a super so that he will understand. Frankly, I had rather work for a super or manager who understands manufacturing than one who does not.

A SOUTHERN OVERSEER OF CARDING.

Starting and Stopping Time

Editor, Overseers' Round-Table:

AS THIS old world rolls on in its ever increasing problem of changing times, there is one lesson that we are learning and that is that the days are not far distant when the worker will get better breaks in such things as the discussion of this subject brings up. The worker has more of late than ever failed to be impressed that he must constantly, every second, keep his strength and skill bent to the end that his employer may grind out mass production, so that eventually the world will have more goods for less money, and that he receive no consideration except as little money as his employer dare give him and keep the wheels going. No, I am not a communist or whatever a radical may be termed. But I feel that when the employee is within the time clock he should be paid, and if he is out of the ordinary in getting started at his place of work in the mill then it's a matter of correct supervision and cooperation.

Let's be more reasonable with our rules. An occasional word will correct major infractions. There sure are a lot of ways for good intelligent minds to offset the small losses of starting and stopping time. No employee who is valuable will stop his machine when he knows that it vitally affects the concern. Most of them feel it's O. K., but, if necessary, most of them would run a few minutes longer than required if he felt it essential. But, after all, its just a matter of good management.

R. A. M.

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Summary of Discussion on Putting the Boy to Work

A little over 65% of the replies voted that a father should start his son in at work where he could keep his eye on him and help him out as much as possible. This group believed that it was foolish to ask the boy to go off somewhere else and fight the battle without any assistance or advice. The remaining 35% held that where the son worked under the supervision of the father there would always be bickering and jealousy, and that it was best to let the boy make his own way.

A Cato Needed to Shout: "Hours Must Be Reduced"

"PERHAPS a Cato who will thunder day in and day out 'Hours must be reduced' might eventually bring a solution," states Henry P. Kendall, president of the Kendall Co., in discussing the problem in the cotton textile industry in an article in the March issue of *Survey Graphic*—a special issue, incidentally, on economic planning.

After outlining the constructive efforts of the industry in connection with the "55-50" plan of hours and the elimination of night employment of women and minors, Mr. Kendall states:

"The industry's problems have by no means been liquidated. The will of the majority was obviously in favor of curtailment. There has been a minority group in the industry, however, which has undermined the constructive effect of the so-called 55-50 plan. In a letter to Walter S. Gifford, director of the President's Organization on Unemployment Relief, George A. Sloan, president of the Cotton-Textile Institute, reported that the whole program is being endangered 'by the shortsighted greediness' of a 'relatively small number of mills' that 'have persisted in operating long hours day and night, and employing minors on the night shift.'

"Some 16% of the cotton mill men did not subscribe to the 55-50 plan. They are jeopardizing efforts of the entire industry to solve one of its most vital problems. These minority mills have refused to reduce running time. Instead, taking advantage of the curtailment of others, they have increased the number of weekly hours run. In some instances they have run as high as 138 hours a week. They have not eliminated women and minors from the night run, despite the fact that the United States is the only civilized country in the world where such a practice still persists. Wages in many of these mills have been reduced and, in some cases, have dropped below subsistence levels. And even with the reduction of cotton goods stocks, there has been a dangerous weakening of the price structure of the industry.

"This is a weakness which affects all classes—wage-earners and citizens as well as executives and stockholders. A single small mill with capacity to supply only a very small part of the total demand for its type of goods breaks the price structure of its entire class of business by cutting a price only 5 per cent. It is possible, through such practices, for a group of small companies employing a few hundred people so to depress prices that the welfare of thousands of employees is affected. In South Carolina, for example, the long hours and low wages are aggravated by the habitual cutting of a few concerns who, by undermining the price structure, lessen the income of the entire state. This is a factor in the situation which should be recognized and should be brought home vigorously if the shortsightedness and wilfulness of a few are to be curbed by an aroused public opinion.

"The philosophy of the minority group is simple: They claim to believe that the struggle is a life and death one, that the weaker concerns will go under and they will survive. This point of view is fallacious, not so much because it is anti-social but because it runs counter to what should be enlightened self-interest.

"If curtailment of output became a fact, prices eventually would become stabilized which would mean that these operators would make as much or more profit without hurting anyone. Elimination of the present overproduction of these mills eventually would bring into the state many times the amount of money which temporarily might be lost because of curtailment. The belief of this minority that the failure of weaker companies will solve the problem is not sound. It has been the history of cotton textiles that, when a mill fails, somebody buys it for a few cents on the dollar and becomes a sharper competitor than ever, because there is virtually no charge on capital investment. Attrition doesn't work, in textiles. Machinery, even when it is inefficiently maintained—by a 'lick and a promise'—will continue to produce for years and years.

"Indictment of the entire industry for what has happened, is unfair and unwarranted. Never has there been a more general disposition in textiles to step into the light. But movement toward saner practices has been blocked by a minority.

"The situation does not involve any material danger to the public interest in the event that it should be corrected and prices become stabilized. There is a point to which prices fall where consumption is not increased and where loss spreads to all of those involved—the worker and the public as well as the stockholder and the management. In the textile industry the central problem is to bring prices to a level where mills can get a new dollar for an old one. In textiles, we have even seen the customer approach the mills and ask that output be curtailed in order that prices become stabilized.

"The 55-50 plan, to which over four-fifths of the industry's total productive capacity subscribed, should not be allowed to fail. It will fail unless compulsions are found which will bring the minority into line. If it fails, the industry will have slipped back further than in 1929.

"The length of the working week in cotton textiles must be reduced. The industry must be brought to see that the only sound principle for its operations is to keep production and sales in reasonable balance. Someone has said that business today needs seamanship more than it needs navigation and I feel this is especially true in textiles. There are plenty of problems calling for navigation—for long-range planning. First, however, we must clear these breakers. Perhaps a Cato who will thunder day in and day out 'Hours must be reduced, might eventually bring a solution.

"Some compelling force must be invoked. It might come through concerted action of the governors of the cotton textile states. It may be that legislation is the only final answer. Certainly, unless the industry itself corrects this fundamental fault of overlong work weeks some outside corrective must be sought."

"But of Course Textiles Are Different . . . ."

In 1931 the unit price of the electric toasters which were bought rose from $5.80 to $5.92; average price of electric ironing machines from $75 to $84; and of electric ranges from $148 to $165.

Of course there may be a special Santa Claus for electrical folks.

▸ Stocks of Gray Cottons Less Than Four Weeks' Production

The smallest stocks of carded cotton cloths since the beginning of comparable figures in January, 1928, characterize the statistical reports of production, shipments and sales during the month of February, 1932, which were made public last Monday by The Association of Cotton Textile Merchants of New York. The figures cover a period of four weeks and stocks at the end of the month were 239,654,000 yd. This is a decrease of 5.7% from the total of 254,056,000 yd. reported at the end of January.

Shipments during February were 258,744,000 yd., or 105.9% of production which totalled 244,342,000 yd. Sales were 245,582,000 yd., or 100.5% of production for the period. The average weekly production was 61,086,000 yd. At that rate stocks at the end of the period are less than four weeks' production.

Unfilled orders at the end of the month amounted to 377,988,000 yd., representing a decline of only 3.4% from the total of 391,150,000 yd. at the end of January.

▸ Hart Dyeing Co. Buys Firth & Foster Plant

The consummation of negotiations whereby the Hart Dyeing Co., Howard & Oxford Sts., Philadelphia, has acquired the buildings and equipment of the Firth & Foster Co., Emerald & York Sts., Philadelphia, has been announced by Stanley H. Hart, president of the Hart Dyeing Co. The business of the Firth & Foster Co. was placed in the hands of a creditors' committee in December, 1931. Possession has already been taken of the plant and extensive alterations in overhauling the equipment with various changes and additions are already under way. The power plant is also being overhauled and rehabilitated, so that the entire plant will be revamped. For the present, it is planned to operate both mills, which will give the company one of the largest capacities in dyeing and finishing woolen and worsted fabrics in Philadelphia.

The present officials of the Hart Dyeing Co. are Stanley H. Hart, president, F. J. Speacht, vice-president, and C. Arthur Foster, treasurer. The last named has been associated with the Hart Dyeing Co., since the Firth & Foster Co. was placed in the hands of the

Jack Card Hears Tell of a Great Contest

Editor, TEXTILE WORLD:

I understand that Carl Laemmle, president of Universal Pictures Corp., built a giant raspberry—two feet in diameter.

For what?

To be awarded each month to the district office that makes the poorest showing—and that office has to keep it until it does a good enough sales job to beat out some other office and to pass on the fruit.

A textile executive who heard of the idea was cruel enough to suggest that a similar trophy might be awarded to the mill that gives the greatest number of price concessions each month.

You're from New York: just what is this raspberry business anyhow?

JACK CARD.

creditors' committee. Mr. Hart also announced that a new company would be organized and incorporated as the Hart & Foster Co., with the above mentioned all occupying active positions in connection with the operation of the plants.

▸ Silk Association Election March 23

The annual meeting of the Silk Association of America, Inc., at which a report of the year's activities will be presented, and board members elected for the coming year, will take place Wed., March 23, at 2 p.m. at association headquarters, in New York City. Thomas B. Hill will preside.

The following names will be presented by the nominating committee for election to the board of managers: Ward Cheney, Cheney Brothers, B. Edmund David, B. Edmund David, Inc., Paul C. Debry, Duplan Silk Corp., B. C. Dunlop, American Glanzstoff Corp., Otto Froelicher, Schwarzenbach Huber Co., E. Irving Hanson, H. R. Mallinson & Co., Inc., Louis Kahn, Kahn & Feldman, Inc., C. W. Sinn, Julius Kayser & Co., W. Stunzi, Stunzi Sons Silk Co.

The nominating committee includes Charles H. Dimick, National Silk Dyeing Co., chairman, Philip Dimond, Gilt Edge Silk Mills of New Jersey, Henry Leon, Leon-Ferenbach Silk Co., Inc., Harold Rubin, American Silk Mills, Inc., and H. F. Scudamore, Jardine Matheson & Co., Ltd.

▸ Yale Installs Loom for Study of Technological Progress

An automatic loom, of the type used in the manufacture of cotton print cloths, sheetings and shirtings, has been installed in the Mason Laboratory of Sheffield Scientific School at Yale University, New Haven, Conn. It will be used in connection with a scientific study of the human problem of technological progress.

Blanket "Part Wool" Code Adopted; Sets 5% Minimum

THE long-debated problem of establishing a "part wool" label code for the blanket industry now appears to be virtually solved. Blanket manufacturers and distributors of this merchandise at a meeting held under the auspices of the Bureau of Standards, in the Hotel New Yorker, New York, March 11, voted unanimously in favor of a code submitted by Robert Amory, treasurer Nashua Mfg. Co., on behalf of the manufacturers. The standards were slightly modified, in pursuant to suggestions from the floor, but substantially they remain as drafted by Mr. Amory's group.

The code, which is materially altered since the question came up at the first meeting held last November, permits the use of the term, "part wool" on all blankets containing 5% or more wool. Previously 10% had been the minimum but this was widely opposed and some leaders in the blanket industry declared it "unenforceable." Distributors, while reluctant to yield to the lower figure, did so apparently because of a conviction that a standpat attitude would deadlock the whole question.

The meeting was attended by nearly 50 representatives of the industry, including manufacturers, distributors and spokesmen for the consumers. The standard will be submitted to the blanket industry by the Bureau of Standards for its final approval in writing. The code becomes binding only if 65% of the industry approves it; the attitude of the manufacturers at the New York meeting indicated that this endorsement would be forthcoming.

The meeting opened with an outline of the problem by L. R. Gilbert, of the Division of Trade Standards, and then Mr. Amory presented the proposed standard. Mr. Amory said in part:

"The agreement first proposed on Nov. 30, 1931 at a meeting similar to this one, called for blankets between 10 and 20% wool to be labeled 'part wool not less than 10%', between 20 and 30% 'not less than 20%', etc.

"This agreement having been sent out by the Bureau of Standards was signed by a number of organizations and distributors but by no manufacturers. In the meantime, a great number of distributors voiced strong objections to the agreement. Among the most valid objection was that it was purely theoretical, and that blankets were not made, and had never been made in any quantities in the groups selected for those standards.

"The manufacturers have given a great deal of time and study to the matter. They consulted experienced distributors, both retail and wholesale. They took particular pains to consult the buyers who buy the goods and who are in the closest contact with both the makers and the ultimate consumers.

"There is great objection to labeling the percentage of wool in any form as leading consumers feel that the wool percentage accurately measured the value and warmth of the blanket. Many scientific tests by reliable authorities have proved this not to be the truth.

"In January it became apparent that the Nov. 30 standards would not be adopted and the situation would continue as it has for several years.

"A number of manufacturers, therefore, met and decided that they would like to make an honest but difficult attempt to clarify the vexed subject of the part wool ticket. They, therefore, asked the Bureau of Standards to call a meeting, which was held on Feb. 10 and put forward the proposal which you have before you.

"The proposal has the advantage of being perfectly straightforward and perfectly clear and fitting as nearly exactly as possible the present practice in the production of blankets. The manufacturers felt that if the lowest wool content part wool blanket made was to be not less than 10% there would be attempts at evasion, such as putting out a part wool blanket with a very small quantity of wool and describing it as 'this blanket contains only a small percentage of wool.'"

The proposed standard follows:

"No finished blanket containing less than 5% wool shall carry the word 'wool' in any form.

"Blankets labeled with the word 'wool' in any form and containing: (1) Between 5% and 25% wool shall be labeled part wool not less than 5% wool; (2) More than 25% wool shall be labeled with the guaranteed (minimum) wool content in percentage; (3) Above 98% wool shall be labeled 'all wool'.

"Part wool, not less than 5%," etc., when used in the advertising on tickets shall appear in not less than eighteen point type. (Bold face capital letters approximately $\frac{1}{8}$ inch high, not condensed).

"The wool percentage above, refers to the fibers employed and means the percentage of wool in the entire blanket and not in the filling alone. (This statement to appear in the commercial standard but not on the labels or tickets used in connection with wool and part wool blankets.)

"Methods of test: In the event of disagreement between the buyer and the seller as to the methods of test to determine the amount of wool in the finished blanket, the test methods used and approved by the Bureau of Standards shall be considered satisfactorily accurate.

"Effective date: For new production, and for clearance of existing stocks, Dec. 31, 1932."

▸ N. Y. Section, A.A.T.C.C. Hears Talks on Faster Dyeings

The March meeting of the New York Section of the American Association of Textile Chemists and Colorists was held Friday evening, March 18, at the Chemists' Club, New York. The speakers of the evening were: Dr. E. W. Pierce, Chemist, Ciba Co., whose subject was "Production of Faster Dyeings on Silk"; and P. Scott, E. I. duPont de Nemours & Co., "Faster Dyeings on Rayon and Cotton Mixed Goods."

NEWS about MEN

Kemp P. Lewis, secretary-treasurer of Erwin Cotton Mills Co., West Durham, N. C., since 1927, was elected president and treasurer at last week's special meeting of stockholders. He succeeds the late W. A. Erwin. **John Sprunt Hill** was chosen first vice-president and **J. C. Thorpe,** of New York, was elected second vice-president. **W. H. Ruffin,** former assistant secretary-treasurer, was elected secretary and assistant treasurer. Mr. Lewis has been with the Erwin mills in various capacities for 30 years; he is also president of the North Carolina Cotton Manufacturers Association, and president of Erwin Yarn Co., Philadelphia.

T. L. Johnston, who has been serving as temporary president and treasurer of the Arcade Cotton Mills, Rock Hill, S. C., since the death of Alexander Long, Sr., was elected permanent president at the recent meeting of the stockholders. The executive board of the mill will include **Ed. Fewell, Sr., Sidney Adams,** and Mr. Johnston, all of Rock Hill. Mr. Johnston is also president of the People's National Bank. Mr. Adams, formerly secretary, is now secretary-treasurer.

Thomas H. Webb, former secretary-treasurer of the Locke Cotton Mills Co., Concord, N. C., was elected president at a meeting of directors held March 12, succeeding the late W. A. Erwin. **C. W. Byrd,** who has been Mr. Webb's assistant, was elected secretary-treasurer at the meeting. Both men have been with the organization for many years. Mr. Webb is also a director of the Cotton-Textile Institute and a member of the board of governors of the American Cotton Manufacturers Association. **K. P. Lewis** was made a director of the Locke mills.

Herman Gardner, New York, has been reelected president of the Phoenix Hosiery Co., Milwaukee, Wis. Other officers have been reelected as follows: **J. P. Margeson,** vice-president and general manager; **Theodore Friedlander,** vice-president and treasurer; **Arnold Friedlander,** secretary; **T. C. Turner,** assistant secretary. Directors are Mr. Gardner, Mr. Margeson, Theodore and **Arnold Friedlander, Louis Lecher, F. L. McNamara,** Milwaukee; **J. C. McKinsey,** Chicago, and **Harold Lehman** and **Arthur Sachs,** New York.

Herbert Lyman was elected treasurer of the Merrimack Mfg. Co., Lowell, Mass., at the recent annual meeting, succeeding **Ward Thoron** who has been treasurer since 1920 but who has resigned. Mr. Lyman was treasurer from 1908 to 1920, when he became vice-president. **Frederick Ayer** and **John S. Lawrence** were elected directors to succeed Mr. Thoron and **Charles Francis Adams,** Secretary of the Navy, who resigned.

Ward Thoron, who has resigned the treasurership of the Merrimack Mfg. Co. He had not announced his future plans at time of going to press.

Mrs. Ariana Merrill Woodbury Woodruff, Cleveland, Ohio, has been elected president and treasurer of the Merrill Silk Co., Hornell, N. Y. **Robert E. Woodruff,** vice-president of the Erie Railroad Co., her husband, will be a vice-president of the Merrill company. **B. C. DeWitt** has been reelected secretary. Former officers were **L. J. Woodbury,** president; **Wm. M. Field,** vice-president; **D. L. McDowell,** treasurer, and **B. C. DeWitt,** secretary. The plant manufactures silk and fabric gloves, glovesilk and rayon underwear.

Ivar L. Sjostrom is president of Lawrence (Mass.) Dye Works Co., which was founded by his father **Ludwig Sjostrom** in 1884. Present plant was purchased from U. S. Worsted Co., Boston, late in 1931 and the new organization will start production about April 1. Other officers are **Michael J. Sullivan,** vice-president, **Fred N. Chandler,** treasurer. **Gusten Nordenstierna,** who learned the business under Ludwig Sjostrom, will return to the plant as superintendent of dyeing; in the interim Mr. Nordenstierna has been superintendent of dyeing at the Dunn Worsted Mills, Woonsocket, R. I., and for the last four or five years has been with Aetna Mills, Watertown, Mass. **Otto Ruhlin,** also trained under the founder, will be superintendent of finishing.

Perry S. Newell, former secretary of the Association of Cotton Textile Merchants of New York, who has been seriously ill at the Crouse-Irving Hospital in Syracuse, N. Y., for the last six weeks, was operated on at that institution on March 15 for stomach ulcers. He withstood the operation in good shape and barring complications is expected to make complete recovery.

Milton Schmidt, sales manager women's wear division, Hamilton Woolen Co., Southbridge, Mass., and Mrs. Schmidt, have returned from a vacation in Bermuda.

Sam G. Riley, a graduate of the North Carolina Textile School, has been made the specification division manager at Plant E of Collins & Aikman Corp., Roxboro, N. C. **R. F. Baynes,** also a graduate has become foreman of plush weaving at Collins & Aikman, Roxboro. Mr. Baynes formerly had charge of twisting there.

Textile Calendar

Silk Association of America, Annual Meeting, 468 Fourth Avenue, New York, March 23, 1932.

Southern Textile Association, Dyers-Bleachers-Finishers Division, Spring Meeting, Hotel Charlotte, Charlotte, N. C., April 2, 1932.

Cotton Manufacturers' Association of Georgia, 32nd Annual Convention, Atlanta-Biltmore Hotel, Atlanta, Ga., April 5 and 6, 1932.

National Association of Hosiery and Underwear Manufacturers, Annual Meeting, Commercial Museum, Philadelphia, Pa., April 14, 1932.

Knitting Arts Exhibition, 28th Annual Show, Commercial Museum, Philadelphia, April 11 to 15, 1932.

North Carolina State College, Annual Textile Exhibition and Style Show, Raleigh, N. C., April 15, 1932.

Southern Textile Association, Eastern Carolina Division, Spring Meeting, N. C. State College, Raleigh, N. C., April 15, 1932.

Southern Textile Association, South Carolina Group, Organization Meeting; Carding Discussion, Columbia, S. C., April 22, 1932.

Southeastern Section of American Association of Textile Chemists and Colorists, spring meeting, Auburn, Ala., April 30, 1932.

Textile Forum, N.A.C.M., General Meeting for agents and superintendents, Chamber of Commerce Bldg., Boston, Mass., April or May.

Second National Cotton Week, May 16 to 21, 1932.

American Cotton Manufacturers Association, annual convention, Atlanta-Biltmore Hotel, Atlanta, May 20-21, 1932.

National Association of Woolen and Worsted Overseers, semi-annual meeting, Rocky Point, R. I., May 21, 1932.

Southern Textile Assn., annual meeting, Hendersonville, N. C., June 24-25.

Southern Textile Exposition, Textile Hall, Greenville, S. C., Oct. 17 to 22, 1932.

C. C. ("Chick") Harding, Charlotte, N. C., of George B. Pfingst, Inc., was reelected president of the Carolina Yarn Association at the annual meeting at Greensboro, N. C., March 7. Other officers are: **Frank Shannonhouse,** Charlotte, of Johnston Mills Co., vice-president; **Joseph R. Morton,** Greensboro, of Tubize Chatillon Corp., treasurer; **Howard Cannon,** Charlotte, of Duplan Silk Corp., was elected secretary to succeed **Richard White,** High Point, of Aberfoyle Mfg. Co. Other business concluded at the meeting was the choice of three chairmen to serve with the officers on the executive committee: **Fred Hallenbeck,** High Point, membership chairman; **W. T. ("Buck") Cheatham,** Burlington, of E. C. Holt & Co., tournament chairman; and **Fred Lemmond,** Greensboro, of Dixie Mercerizing Co., entertainment chairman. The purpose of this committee is to lay plans for the annual golf tournament usually held in September.

Philip Lavoie has become associated with the selling organization of U. S. Finishing Co., New York. Mr. Lavoie was with the Mt. Hope Finishing Co., North Dighton, Mass., for 20 years, but has been plant superintendent at the Imperial Printing & Finishing Co., Cranston, R. I., for the last three.

J. J. Saunders has been named superintendent of Paola Mills, Statesville, N. C., to succeed R. L. Poovey, who died recently. He has been with the company for some time.

Adolph Born, formerly with Arlington Mills, Lawrence, Mass., has been made manager of the dyeing and finishing departments of the Forstmann Woolen Co., Passaic, N. J.

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Retires After 42 Years

George F. Hoffman, prominent rope manufacturer for 42 years, who recently retired as head of the Hoffman-Crown Mfg. Co., Philadelphia, when the company was sold to J. E. Fricke Co., Hulmeville, Pa. He was married March 2 to Mrs. Caroline M. Price.

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E. A. Beckett, who recently joined the sales staff of Monument Mills, Housatonic, Mass., is to be associated with the New York force. He was formerly with Eldredge & Snyder, Covert & Workman and Frank E. Rudd, New York.

L. P. Wood, who represents the Pelzer (S. C.) Mfg. Co., Tucapau (S. C.) Mills, and the Muscogee Mfg. Co, Columbus, Ga., in the Southeastern territory, has also been appointed to represent the Leakesville Woolen Mills, Inc., of Charlotte, N. C. His headquarters are in the Commercial Exchange Bldg., Atlanta.

Walter H. Spaulding, designer at American Woolen Co., No. Vassalboro, Me., for over 4 years, has severed his connection there. He was formerly designer at Yantic, Conn., Rockville, Conn., and Utica, N. Y.

O. H. Haas is in charge of new branch office of Duplan Silk Corp., New York, in Colonial Trust Bldg., Reading, Pa. Mr. Haas has been with the company for more than ten years.

Joseph Gysell, associated with the velvet department of Cheney Bros., South Manchester, Conn., and New York, for 26 years has resigned.

G. P. Pruitt, overseer of weaving, Dunean Mills, Greenville, S. C., was recently elected president of the Greenville Textile Club. Others elected at the annual meeting held in the Parker High School auditorium were: **J. B. Fowler,** of Mills Mill, vice-president; **Loui Greet,** director of vocational education, Parker District Schools, secretary and treasurer; and **A. D. Bolt, J. T. Bray** and **Charles Mies,** directors.

W. F. Patrick, former head of throwing department at the United Throwing Co., Burlington, N. C., has become throwing superintendent at the Pinehurst Silk Mills, Hemp, N. C.

Thomas M. Dorgan, former secretary of the beneficiary department of the National Association of Woolen and Worsted Overseers, has been replaced by **P. J. Harney,** formerly overseer of weaving at Intervale Mills, Inc., Dudley, Mass.

Noel D. White, overseer of dyeing and finishing for the last 12 years at Davenport Hosiery Mills, Chattanooga, Tenn., has resigned.

Obituary

Jacob Elsas

Jacob Elsas, founder of the Fulton Bag & Cotton Mills, Atlanta, Ga., died March 5 at his residence in Atlanta at the age of 89 years. A native of Germany, Mr. Elsas came to the United States when 16 years old and fought on the Union side during the Civil War. At its close he built a log store at Cartersville, Ga. In the early seventies he went to Atlanta and established the Atlanta Bag & Paper Co., which later became the Fulton Spinning Co., and eventually the present Fulton Bag & Cotton Mills. Mr. Elsas also helped to establish the textile department at the Georgia School of Technology. His son Benjamin Elsas, is president of the Fulton company, and his grandson Norman E. Elsas is secretary of the company. Two other sons, Adolph and Victor Elsas survive.

Ralph W. Northcutt

Ralph W. Northcutt, for many years president of the Marietta (Ga.) Knitting Co., died in Marietta recently. Mr. Northcutt, who was 49 years of age, had been engaged in the automobile business for a number of years following his retirement from the textile field.

Gustav A. Rumpf

Gustav A. Rumpf, president of Hancock Knitting Mills, Philadelphia, died last week at the age of 85 years. He was born in Baden, Germany, in 1847; he came to this country in 1867 and entered the weaving business with his brother, Frederick Rumpf. His first association with the knitwear industry was with Brown Aberle Co., Philadelphia, out of which grew a number of later knitting companies, including the Hancock company which was founded in 1908. Mr. Rumpf, a progressive manufacturer, using the most modern methods and machinery, was active head of the Hancock Knitting Mills until about three years ago. He is survived by two granddaughters and a niece. His wife died several years ago.

H. G. McLean

H. G. McLean, 36 years of age, comptroller of the Holeproof Hosiery Co., Milwaukee, died Mar. 4 in a New York hospital while on a business trip in the East. Mr. McLean had been with the Holeproof company for five years. He is survived by his widow, a son and daughter.

John McIntyre

John McIntyre, pioneer in the white goods converting business, died last week at the age of 86 years. In the early days he did a substantial business on his own account at 109 Worth St., New York, where he began his converting business. In 1888 he was buyer of silks and black goods for the old firm of John V. Farwell Co., Chicago. Mr. McIntyre is reputed to have made over 100 trips across the Atlantic in the interests of Remy, Schmidt & Pleissner, factors for German dress goods mills.

A. B. Brannon

A. B. Brannon, general superintendent, Entwistle Mfg. Co., Rockingham, N. C., died in the Charlotte (N. C.) Sanitorium, March 11. He was 58 years of age. His widow and five children survive.

John Geyer

John Geyer, connected with the New Albany (Ind.) Hosiery Mills for 30 years and superintendent when the company went out of business in 1925, died March 12, at the age of 52 years. He is survived by his widow, a son, and two daughters.

NEWS about MILLS

Cotton

Dallas Mfg. Co., Huntsville, Ala., has placed another unit of its mill in operation, following curtailment for a number of weeks. The entire plant is now running on a full five-day week schedule, and will continue indefinitely on that basis.

Buck Creek Cotton Mills Co., Siluria, Ala. Carolina Specialty Co., Charlotte, N. C., has recently installed a complete equipment of the Veeder-Root pick counters for the Buck Creek company.

Thames Textile Co., Norwich, Conn., will be dissolved in accordance with a decision reached by stockholders at a special meeting March 5.

John P. King Mfg. Co., Augusta, Ga., has purchased additional equipment of Veeder-Root pick counters which will be installed as rapidly as possible.

Claytex Mills, Inc., Clayton, N. C., chartered to manufacture cotton yarn, have authorized capital stock of $100,000; subscribed stock of $30,000 by R. L. Huffines, Jr., Rocky Mount, N. C., McDonald Dixon, Clayton, and Henry C. Haskell, Providence, R. I.

Amoskeag Mfg. Co., Manchester, N. H. Mill No. 11 of this company was slightly damaged by fire on March 9. An official estimate of loss has not been announced. The damage will be replaced.

Bodell Lace Co., Pawtucket, R. I., has filed plans for a one-story brick addition to mill, 20x80 ft., on Lee St. Work will be placed under way at once.

Elastic Braid Co., Providence, R. I., has been organized with capital of $25,000, to operate a local mill. William P. Gilbert and Carlo Izzi, 56 Vinton St., Providence, are heads.

Gluck Mills, Anderson, S. C., will build 12 additional four-room houses for employees at an early date. The work will be under the supervision of the company.

Fort Mill (S. C.) Mfg. Co., is running on a capacity schedule, with day and night working shifts, and will continue on this basis for an indefinite time.

Wool

Waterloo (N. Y.) Mills, Inc., are running at full capacity on upholstery for the automobile trade.

W. & K. Co., Nasonville, R. I., has advanced production to a three-shift day and night schedule, increasing the working force by about 100 persons. This capacity basis, with about 300 workers, will be maintained for an indefinite time.

Wisconsin Spinning Co., Inc., Onalaska, Wis., has reopened under the direction of W. H. Bigelow.

Dominion Woollens & Worsteds, Ltd., Hespelar, Ont., Canada, have awarded contract for repairs and alterations to Preston & Bartles, Hespelar.

**Indicates previous mention of project.*

Knit

***American Textiles, Inc.,** Mt. Vernon, Ill., hosiery division of parent company at Bay City, Mich., are not in bankruptcy as reported in Feb. 27 issue of TEXTILE WORLD. It is now operating under the name of **Illinois Knitting Co.,** which was a subsidiary of the Bay City company. The present plan is to continue operation of the Illinois Knitting Co.; selling force is maintained and orders are being shipped and received every day.

Pyramid Hosiery Co., Inc., Rockaway, N. J., founded by Paul Guenther, after the sale of his original Onyx Hosiery Mills to the Gotham Silk Hosiery Co., Inc., is being merged with the selling company, **Paul Guenther, Inc.,** New York, and will operate under the latter name. David Ford, chairman of the board of Henry C. Rush & Co., New York, has been elected president of the reorganized company. Arthur T. Paquette, treasurer of the old company, and Ferd Loeffler, superintendent, will be treasurer and secretary respectively.

Parker Mfg. Co., Brooklyn, N. Y., has been formed with a capital of 50 shares of stock, to operate a local knitting mill. Company will be represented by Robert E. Perin, 290 Broadway, New York.

Clayton (N. Y.) Knitting Mills, Inc. A certificate of dissolution was filed March 4 in the county clerk's office at Watertown. The company manufactured bathing suits and other knitted garments.

Queen City Silk Mill, Allentown, Pa., ribbon plant, closed for nearly two years, has suffered a loss estimated at $75,000 by fire of unknown origin.

Derk Mfg. Co., Doylestown, Pa. John H. Quail and Frank Adshead have been appointed receivers under bond of $10,000. Fire destroyed the mill building, March 9. The damage is estimated at $150,000. The company moved from Philadelphia in 1927.

Girard Hosiery Co., Inc., Philadelphia, has filed a petition of voluntary bankruptcy in the local U. S. District Court.

***Philadelphia (Tenn.) Hosiery Mills** are to start construction of a two-story brick building 45x60 ft., on an adjoining lot on April 1. It is understood that new machinery will be added.

Silk

Klots Throwing Co., Lonaconing, Md., has closed its local mill for an indefinite period. About 200 men and women are affected. The plant has been in continuous operation for about 30 years.

S. M. S. Silk Co., Allentown, Pa., has been formed with a capital of $5,000 and 2,000 shares of stock, no par value, to take over and operate company of same name, with local mill at Eighth and Greenleaf Sts. Samuel Smith is treasurer of new company.

Elysburg (Pa.) Silk Throwing Co., Inc., recently organized with a capital of $20,000, to operate a local mill, will be represented by C. R. Daniel, Elysburg, who has been elected treasurer. William Fryberger and W. Lloyd Snyder, both of Shamokin, Pa., are interested in the new company.

Lansford (Pa.) Mills, Inc., ceased operations March 3 for an indefinite period. At the time of closing 137 persons were employed and the mill had been running on two shifts.

Belding-Corticelli, Ltd., St. Johns, Que., Canada is increasing production, with adoption of night schedule in a number of departments, including dyehouse. Some workers have been added to the force, and increased working hours have been arranged in departments where night shift is not engaging.

Rayon

***Industrial Rayon Corp.,** Cleveland, Ohio, has awarded general contract to George A. Rutherford Co., Cleveland, for one-story addition, totaling about 50,000 sq.ft. floor space, estimated to cost close to $150,000, with equipment. Further extensions are contemplated. Christian, Schwarzenberg & Gaede Co., Cleveland, is architect and engineer.

DuPont Rayon Co., Old Hickory, Tenn., has adopted a production schedule of three 8-hour shifts daily, replacing a four 6-hour shift working basis, and will hold to new schedule for an indefinite period.

Finishing

Madison Piece Dye Co., Paterson, N. J., is running on a capacity schedule at its mill on Second Ave.

Up-to-Date Silk Dyeing Corp., Brooklyn, N. Y., has been organized with a capital of $20,000, to take over and operate the **Up-to-Date Silk Dyeing Co.,** with local mill at 252 Norman Ave.

Hart Dyeing Co., Philadelphia, has purchased plant, equipment and property

of **Firth & Foster,** Philadelphia, whose business was put in the hands of creditors last December. It is understood that the new organization will operate under the name of **Hart & Foster** and that the dyeing operations will be concentrated in the newly acquired plant which was revamped not long ago. Details will be found on page 38 of this issue.

Miscellaneous

Palmer Bros. Co., New London, Conn., has sold its land and buildings in Montville, to Frederic W. Mercer, president, who in turn has sold a portion of the property to the Town of Montville to be used for school purposes. The mill, which now has passed out of the company's hands, has not been operated for several years. The remaining mills in New London and Fitchville are deemed adequate to meet production demands. Mr. Mercer has also transferred to Palmer Bros. all title to the plant of the New England Carpet Lining Co., New London. The business of this concern was bought by the Palmer company from Mr. Mercer in January, 1927, and is now operated as a division. Mr. Mercer had retained ownership of the buildings, which he now relinquishes.

General Shoe Lace Co., Louisville, Ky., has awarded general contract to J. D. Jennings, Louisville, for remodeling and improving its mill on Magazine St.

Elliott-Granite Linen Corp., Wortendyke, N. J. Creditors of the company, whose affairs are in the hands of Frank D. Stead, of Hawthorne, N. J., have been advised of a committee to work out a plan of action which will allow them 100% payment, and to permit the continuance of the business. The committee includes Richard Buys, of the Linen Thread Co., Martin Fawcett, of Hughes Fawcett Co., and Arthur B. VanGelder, of the VanGelder Yarn Co.

Gold Mattress Mfg. Co., Brooklyn, N. Y., recently organized with a capital of 200 shares of stock, no par value, will take over and succeed to the **Gold Mattress Co.,** with local factory at 1248 Ave. U. Louis Goldblatt is the principal incorporator.

New Books

THE NEW ENGLAND COTTON TEXTILE INDUSTRY; by J. Herbert Burgy; The Williams & Wilkins Co., Baltimore, Md.; Price $4.50.

This book takes the form of a response to the current inquiry: "Is the New England cotton textile industry definitely on the decline?" It is pointed out that the textile industry, in its initial stages, was influenced largely by physical environment, but that the power of economic factors today far surpasses that of geography. A glance at the chapter headings will perhaps give as clear an idea of the contents of the work as may be had in brief: The Geography of Raw Material Consumed in New England Mills; The Part Played by Power in the Various Stages of New England Cotton Manufacturing; The Status of Geographic Factors in a Present-Day Interpretation of New England Cotton Manufacturing; Certain Economic Aspects and Adjustments Which Characterize the New England Cotton Textile Industry.

DING GOES TO RUSSIA; by Jay N. Darling (J. N. Ding.), New York: Whittlesey House, McGraw-Hill Publishing Co., Illustrated. 195 pp.; $2.50.

This well-known cartoonist describes a recent trip through Russia, and the chief value of his tale is the picture it gives of the life of the average peasant in the remote areas. Mr. Darling's artist perception evidences itself as much in text as in the sketches with which the book is liberally illustrated. He aims at no economic or social study, and is content to observe informally along the way. As he is a trained observer, the result makes live reading. Several chapters will particularly interest textile manufacturers. He deprecates the significance of the Soviet nudist cult for bathing, attributing it to more to the lack, than to the dislike, of bathing apparel. He doubts that the danger of Russian "dumping" is as great as generally believed.

TEXTILE WORLD Cotton and Wool Index Numbers

WOOL INDEX NUMBERS

Date	Wool	Tops	Yarns	Cloth	Group Aver.
July 31, 1914	100	100	100	100	100
1925					
January	215	213	211	229	221
February	259	266	253	231	245
April	219	234	230	241	235
July	216	217	216	239	227
October	216	212	212	227	220
1926					
January	215	213	211	229	221
February	209	208	208	226	217
April	181	193	198	211	202
July	173	184	189	202	193
October	178	186	193	197	192
1927					
January	178	187	190	197	191
February	179	186	188	199	191
April	177	182	184	193	188
July	180	183	183	193	188
October	185	185	189	194	190
1928					
January	194	193	186	195	192
February	196	202	191	197	196
April	199	206	198	198	199
July	204	206	203	197	200
October	197	197	203	198	199
1929					
January	199	198	201	198	199
February	198	196	201	211	205
April	187	189	198	197	195
July	169	170	188	197	188
October	164½	169	188	197	187
1930					
January	148	161	177	197	181
February	138	150	173	209	183
April	127	139	164	186	167
July	125	135	158	184	163
October	124	135	154	180	161
1931					
January	112	127	148	178	156
February	106	122	143	178	153
April	101	112	134	167	143
July	98	111	134	162	140
October	97	108	127	147	132
1932					
January	94	104	127	147	129
February	94	103	127	145	129

FURTHER gains were registered in February by cotton and gray goods in the cotton index series, while colored goods showed continued weakness. In the wool group, wool and worsted yarns were unchanged, but tops and cloths showed slight declines.

The raw cotton index at 55 for February was 2 points higher than in January and 5 points above its December record low of 50. The 6 point gain in gray goods carried this index to 80 and the highest level since the third week of last September. The yarn index continued steady at 78. The only decline in the cotton group occurred in colored goods which fell off 3 points to 99. This was the first time this index broke through the 1914 basis, or 100, whereas cotton has been below 100 for 18 months and yarns and gray goods for about 9 months.

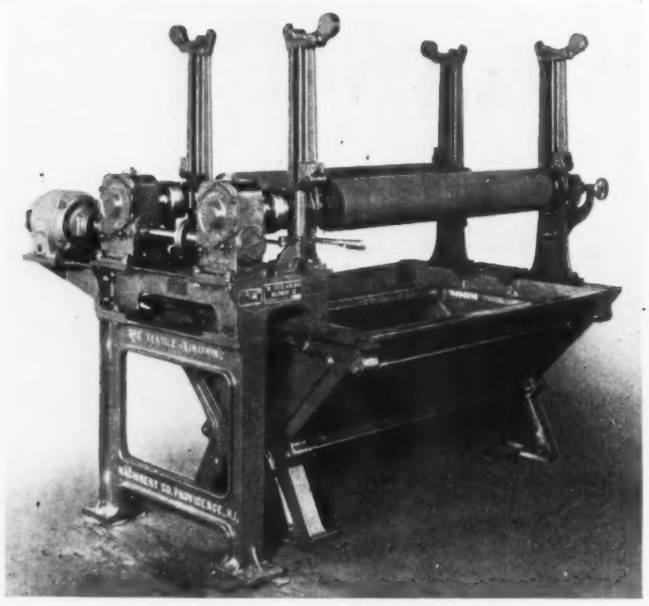
The wool index at 94 has shown no change since last November, while worsted yarns have held firmly at 127 since October. The top index of 103 for February was 1 point below January, and wool goods at 145 were 2 points lower.

Inquiries regarding interpretation and use of these index numbers may be addressed to TEXTILE WORLD, Statistical Dept., 1427 Statler Bldg., Boston, Mass.

COTTON INDEX NUMBERS

Date	Cotton	Yarns	Gray Goods	Colored Goods	Aver. for Cloths	Group Average
July 31, 1914	100	100	100	100	100	100
1925						
January	192	197	195	173	184	187
February	197	196	195	174	185	187
April	196	194	193	180	187	188
July	197	183	185	176	181	182
October	174	189	193	178	186	186
1926						
January	167	175	177	162	170	171
February	165	172	176	160	168	169
April	153	163	161	155	158	159
July	149	149	151	141	146	147
October	106	141	147	144	146	143
1927						
January	107	134	140	140	140	138
February	113	136	143	141	142	140
April	118	136	143	142	143	140
July	143	149	156	145	151	150
October	168	176	184	169	176	176
1928						
January	151	163	166	166	166	165
February	148	159	163	166	165	163
April	164	160	160	165	162½	162
July	174	167	165	168	166½	167
October	157	161	162	164	163	162
1929						
January	162	166	158	169	163½	164
February	162	163	157	173	165	164
April	163½	164	157	173	165	165
July	149	160	149	166	158	158
October	147	160½	155	161	158	158
1930						
January	138	149	141	157	149	149
February	125	144	134	157	145	145
April	131	139	129	156	143	142
July	105	120	119	142	130	128
October	85	110	115	125	120	117
1931						
January	82	102	107	124	115	112
February	88	104	106	124	115	112
April	82	100	106	125	116	111
July	75	97	97	120	109	105
October	50	84	76	112	94	90
1932						
January	53	78	74	102	88	85
February	55	78	80	99	89	86

New Machinery *and* Processes



New light-running dye jig for fine goods

Light-Running Dye Jig

A NEW light-running dye jig especially adapted for light silk, rayon, cotton and silk, rayon and silk, and fine cotton fabrics is announced by The Textile-Finishing Machinery Company, Providence, R. I.

This machine is an individually driven, self-contained unit; and, because of the absence of pulleys and belting, it is pointed out that the operator can move freely on all sides of the jig.

It is driven by a 1-hp. motor through roller bearings, worm gear reduction units, and flexible couplings—this design being employed to secure silent operation and low upkeep cost. The clutches are of the dry-plate type, designed to insure smooth starting and eliminate jerking. The beam rolls turn in SKF ball bearings and are covered on the ends to prevent formation of rust and spotting of goods.

The four immersion rolls are equipped with Parock bearings and are suspended in the tank by a bracket bolted to the outside frame of the jig.

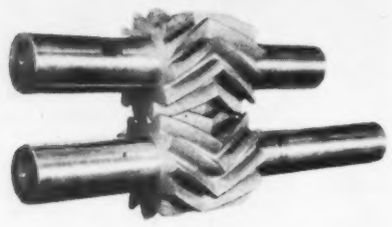
The tank for this particular machine is of a type which permits the use of a small quantity of dye liquor. It is constructed of wood, Monel metal lined, and is supported by cast-iron frame work. Other types of tanks, however, can be furnished.

The hinged arm of the batcher is self-locking, and the machine has been so designed that extra batch bars may be carried on top of the batch arms so as to keep these extra bars with the wood shells from lying around on the floor.

Herringbone Gears as Pump Rotors

THE use of herringbone power-transmisison gears as the impeller unit in the gear type of pumps is announced by Farrel Birmingham Co., Inc., Buffalo, N. Y.

This new use on the Farrel-Sykes gears is said to possess numerous advantages. They may be run at high speed and are declared to be efficient both mechanically and volumetrically. The smaller size pumps are used with motors direct connected to them, running up to 1800 r.p.m.



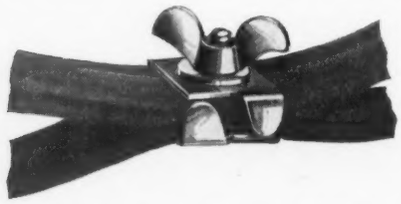
Herringbone pinions have found a new use as pump rotors

The gears shown in the illustration can be run at 435 r.p.m. and pump 625 gal. per min. against a head of 200 lb. The rotors are made in a variety of materials including bronze, high-carbon forged steel, nickel-alloy cast iron, and various alloy steels including Nitralloy. The shape of the tooth is so designed as to reduce trapping of the liquid to a minimum and to eliminate hydraulic noises.

Harness Clamp

DEVELOPMENT of a new harness-strap clamp of simple yet effective design is announced by Apco Mossberg Corp., Attleboro, Mass.

It is asserted that, by using this clamp



Clamp for fastening and adjusting harness strap

to adjust the harness and jack strap, the mill man is guaranteed a more accurate and permanent adjustment. Further advantages ascribed to this device are elimination of sagging and reduction of wear on the strap.

Spiral Two-Lipped End Mills

A NEW line of spiral two-lipped end mills, straight shank, is announced by the Brown & Sharpe Mfg. Co., Providence, R. I.

These end mills with spiral teeth, having greater cutting areas, are expected to be very useful for certain types of operation. They are furnished in high-speed steel, both right hand and left hand, and are made in a complete range of sizes.

Spiral end mill of improved design

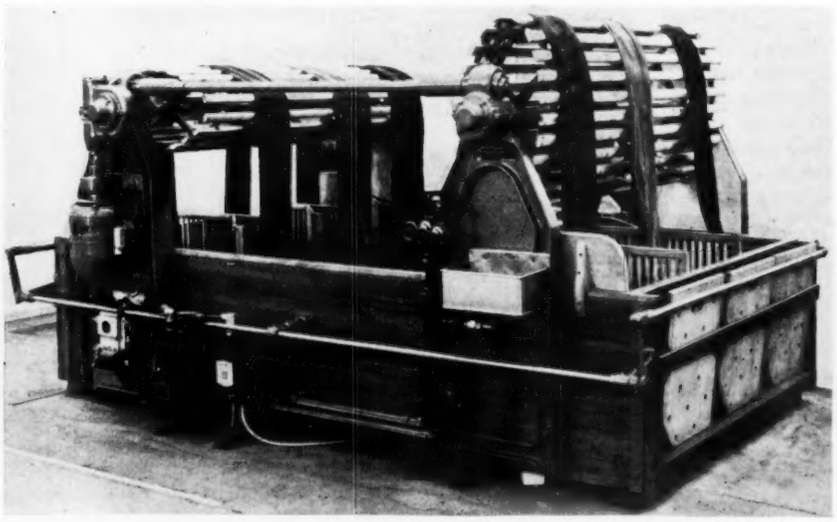
Piece Dyeing Machine

DEVELOPMENT of an improved piece-dyeing machine is announced by Van Vlaanderen Machine Co., Paterson, N. J.

In this new machine for the dyeing of silk fabrics, the goods, instead of being pulled through the liquor in the rope form, are said to practically float through it in the semi-open form. It is designed to reduce the pull to a minimum for the purpose of eliminating chafe marks and to insure good penetration of the dye liquor and even dyeing of the goods.

The lacing of the fabric in a figure 8 pattern further assists in attaining this end.

The machine has two oval reels which revolve in opposite directions and are driven by a single motor. The machine is of a large capacity, holding 25 to 50% more cloth than older models, with resultant savings in water, steam, and dyestuffs.



Piece-dyeing machine for silk goods

Welding Flux

A NEW welding flux, known as Cromaloy flux, has been developed by the Linde Air Products Co., New York, and is designed especially for use in welding the chromium-containing alloys.

Due to the formation of infusable oxides, consisting chiefly of chromium oxide, together with small amounts of iron oxide, magnesium oxide, and silica, it is pointed out that fluxes used for welding or brazing this material must have special properties.

Cromaloy flux, because of its high solvent power for chromium oxide and its high resistance to heat, is described as being satisfactory for this type welding.

Two-Way Relief Valve

TO safeguard the actuating element of a pressure control valve against excessive unbalanced pressures, Northern Equipment Co., Erie, Pa., announced the development of a new two-way relief valve. It is shown that high unbalanced pressures are usually brought about by water hammer or that they may be encountered when bringing a high-pressure boiler up to operating pressure. The new valve is installed between the high and low connections to the pressure control valve.

The essential feature of the valve lies in the fact that there are two balls located in the interior of the valve and held to their seats by two springs which are set for a maximum pressure of 200 lb. When the pressure in either the water or steam chambers exceeds 200 lb., the ball is lifted from its seat; and the pressure is equalized.

Lead Coating Process

DEVELOPMENT of a new lead-fusion method, known as the Leadhesion process, permitting of the application of a permanently adhering lead coating of any desired thickness to metal surfaces as a protection against corrosion is announced by the Gross Engineering Corp., 3954 West 25th Street, Cleveland, Ohio. The fact that the Leadhesion process can be carried out in the field as well as in the regular workshop is expected to be of particular advantage.

It is particularly recommended by the manufacturer for the coating of tanks, vacuum and pressure vessels, and moving parts of acid- or brine-proofed machinery.

Improved Gate Valve

DEVELOPMENT of a gate valve having the lubricant-seal principle of tight seating is announced by Reading-Pratt & Cady Co., Inc., Bridgeport, Conn. Known as the Lubrotite gate valve, this contrivance is of interest because of the peculiar duct system for introducing a lubricant seal between the seating surfaces.

Through the use of this principle of sealing, it is asserted that even though the seating surfaces have become damaged, the valve will still seal tightly.

New Dyestuffs

E. I. du Pont de Nemours & Co., Inc., Wilmington, Del., has announced the following dyestuffs:

PONTAMINE DIAZO ORANGE WD, a developed orange recommended because of its desirable shade, its dischargeability, and its good fastness. It is between Pontamine Diazo Orange and Pontamine Diazo Orange G in shade, but from the viewpoint of dischargeability is said to be superior to either of these colors. The dyestuff may be used on cotton raw stock, yarn, or pieces, and may be applied in all types of machines. It is but slightly affected by metals and is level dyeing and penetrates well. On both cotton and rayon, Pontamine Diazo Orange WD is extremely fast, for a developed color, to light, acids, alkalis, perspiration, water, and moderate washing. It may be applied to pure silk and also to weighted silk.

PONTAMINE DIAZO BLUE 5GL, a developed color which when developed with beta naphthol is greener and brighter than Pontamine Diazo Blue 3G and greener than Pontamine Diazo Blue BR. It is recommended for medium or light shades on cotton and rayon when a pure white discharge is desired. It is fast to light, for a diazo color, being superior in this respect, as well as in dischargeability, to Pontamine Diazo Blue 3G. It is further stated that Pontamine Diazo Blue 5GL is very soluble, levels and exhausts well, and may be applied with satisfactory results in all types of machines. In addition to its light fastness, it is sufficiently fast to water and washing to obviate any danger of the color bleeding into the white during the discharge printing operation.

General Dyestuff Corp., 230 Fifth Avenue, New York, has announced the following new products:

FAST CORINTH SALT LB, the stable color salt of fast Corinth LB Base, which in conjunction with the Napthols of the AS range, yields the same dyeings with the same fastness properties as the base. The salt is recommended in all those cases in which the diazotization of the base meets with difficulties, or when other reasons favor the simpler application of the salt.

EUCHRYSINE GGA CONC., a bright greenish yellow dyestuff intended primarily for color discharges on pure and weighted silk. It is well suited also for application printing on silk or on cotton and silk dyeing.

RAPID FAST SCARLET RH, RED FGH, RED IRH, BROWN GGH, and BROWN BH are further additions to the range of rapid fast dyestuffs. The five new brands are in powder form and their printing pastes are of very good stability. They are printed according to the usual printing recipe for Rapid Fast powder dyestuffs, and fixed either by a short steaming in the rapid ager, or by hanging in moist and warm air and subsequent developing in a hot bath of acetic acid and glauber salt. However, the goods may be developed without steaming or airing in this bath immediately after having been dried. The new brands are suitable for printing cotton, linen, and rayon. All five colors have excellent fastness properties as regards light, washing, and chlorine. The reds are much brighter than any Rapid Fast Reds hitherto on the market. The two browns are particularly interesting, as in the past, browns could be made only from mixtures.

Questions . . . *and* Answers

Making Core Yarn

Technical Editor:

I was interested in reading your answer to question No. 7787 as published in your issue of Feb. 13, 1932. The writer has had considerable trouble at various times with yarn bunching and stripping in the guide. After various endeavors to correct the trouble, the two core yarns were run through guides set just above the wipe rolls and about one-third the width of the ring from each edge. This gives the fiber a chance to be rolled around each yarn when passing through the rub apron; and when spun, it appears very much like a double or two-ply yarn. When this procedure is employed, the carding must be very well done to produce an even yarn; for in spinning, it must be given full draft and there is no chance to draw out heavy spots.

There is also the double system. By the use of this method, however, the production is cut in half. The yarn is taken from the upper doffer ring as stated above and is carried down and run through guides to carry it through at the center of the lower doffer ring, thereby securing half of the weight from each set of doffers. It is, of course, taken off on to one spool. This method produces a more even yarn.

In knitting, if the yarn seems to stick to the needles or cause trouble in drawing the loops or stitches, running it through paraffin disks when winding will greatly relieve the trouble.

G. W. Sheeley.

▼

Streaks in Yarn-Dyed Taffeta

Technical Editor:

We are sending you a sample of yarn-dyed taffeta poult-de-soie which shows a distinct, peculiar streakiness in the filling—regular barre marks. The streaks are apparent in every piece and in every color. In certain shades, however, they are scarcely discernible. We are quite sure these marks are not of mechanical origin.

It appears to us that where the dark streaks occur, the filling material (four-thread, 13/15 tram, weighted to 20/22 oz.) is more open, fluffed, or puffed up than in the other portions.

It is our opinion that the material is uneven in itself, and that it was unevenly stretched when it was made metallic. Your advice in solving this problem will be appreciated.. (7794)

We have examined the sample of yarn-dyed taffeta poult-de-soie, and agree with you that the peculiar streakiness is not due to the mechanical processing.

Where the defect occurs, the filling material has a considerable variation as to size. Other parts of the sample are satisfactory as regards evenness. It appears, therefore, that this defect is due to faulty dyeing. This belief was strengthened by the results obtained upon stripping and redyeing the sample. After this treatment, the barre marks did not show. We suggest that you check the dyeing operation carefully to make certain that level-dyeing colors are employed and that other conditions are properly maintained.

▼

Stains in Khaki Dyed Fabrics

Technical Editor:

We are inclosing herewith a sample of a fabric which is badly stained. At first though we believed that this stain was caused by an oil splash on the warp while the cloth was being woven; but it has occurred to use that possibly the stain may have been caused through the use of tallow or some other such ingredient in the warp size which was not completely sulphonated, and flowing on the surface of the size bath was transmitted to the warp yarns with the result that in the desizing operation the sizing material was not completely removed in that particular place. (7820)

The defect in this fabric is apparently due to an oil splash which got on the warp while the cloth was being woven. It does not seem probable that any ingredient used in the sizing mixture would give this defect. As a rule oil acts as a resist and not at mordant. Some of the loom oils of the non-dripping variety are thickened with metallic soap, such as aluminum stearate. If this was the type of oil used, and the oil caused the trouble, the metal in the oil might act as a mordant, causing the fabric to take up more dyestuff in the stained portion. We suggest that you strip a piece of the fabric showing this defect either with chemic or with a solution of titanium chloride or sulphate. If the stain is still apparent after the stripping, or reappears after redyeing the piece, it will show quite conclusively that the stain is due to oil splashing. If, on the other hand, this treatment causes the stain to disappear, you will be able to salvage the goods.

▼

Finished Width for Underwear Fabric

Technical Editor:

We dry our ribbed underwear fabric on the hot-air-pipe system and desire to know what is the correct finished width we should obtain in a roll of cloth. Our fabric is knitted from 26/1 combed peeler yarn on Cooper 14-cut spring-needle rib machines with 27 stitches to the inch. (7812)

In making up rib-knitted garments, care should be taken that over-spreading is not practiced. Where an upright-pipe dryer system is employed, it must be realized that considerable tension will exist in the wet cloth, so that, in addition to being spread, it will be unduly stretched in length as well.

A certain mill with which we are familiar was at one time making men's union suits from a part wool and cotton fabric. The upright-pipe dryer system was employed, and they were informed several times that they were spoiling their product by over-spreading. To prove this point, one of the union suits was washed lightly and hung up to dry. When it was dry, it was found to have shrunk 6 in. in length.

There are many who believe that the preferred way to dry any ribbed fabric is by means of a hurricane dryer. In this machine the fabric hangs loosely and has a chance to dry in a more natural manner. After drying the cloth in this manner, it is usual practice to put it through a spreading machine having a steam attachment and allowing the cloth to lap up rather than roll up.

To determine if the cloth is spread in the most natural manner, it is usually best to finish a garment, wash it in a natural way and hang it up to dry. If the shrinkage is excessive, it will readily be seen that the cloth has been over-spread.

In order to predetermine what width of cloth can be expected from various sizes of machines, divide the total num-

ber of needles in the machine by two, and then divide the resultant figure by the number of wales per inch in the fabric

In cloth made of 26s combed peeler yarn on a 14-cut machine, the wales should not be less than 26 per inch. An example of how the width of the fabric may be figured is given herewith. It may be well to mention that reference to the Copper schedule will eliminate the necessity for figuring.

Diameter of Machine		n		Circumference of Machine		Cut of Machine		Total Needles
18 in.	×	3.1416	=	56.5488	×	14	=	792
19 in.	×	3.1416	=	59.6904	×	14	=	836
20 in.	×	3.1416	=	62.8320	×	14	=	880
21 in.	×	3.1416	=	65.9736	×	14	=	924

				Wales per Inch			Finished Width
792	÷	2	=	396	÷	26	=	15.230 in.
836	÷	2	=	418	÷	26	=	16.077 in.
880	÷	2	=	440	÷	26	=	16.953 in.
924	÷	2	=	462	÷	26	=	17.769 in.

One man who has had experience on this type of work offers the following suggestions:

In view of the fact that you do not state just what trouble you are having, I shall be able to give you figures only from actual drying experience. Fabrics knitted from this weight of yarn and having the number of stitches per inch as indicated in the inquiry usually run according to the following table:

Width of Knitting Machine, In.	Width at Dryer — Wet, In.	Width Desired for Cutting, In.	Finished Width, In.
15	14½	15	16
16	15½	17	18
17½	17	18	19
19	18¾	22	23

It will be seen from this table that it is necessary to spread all sizes, i.e., the four shown above, up one size above the width desired for cutting. This, of course, is necessary because of the tendency of the fabrics to narrow after they come from the machines.

▼

"Strawberry Stitch" in Welt

Technical Editor:

We are enclosing a stocking in which you will notice a "boxed stitch" effect in the welt. We have been having a good deal of trouble like this and would like to have you let us know what you would consider to be the cause of it. (7823)

Distorted stitch construction as shown by the sample is commonly referred to as "strawberry stitch" and is caused by an unbalanced stitch construction or stitch formation arising from improper adjustment of needles, sinkers, and knock-over bits. It is difficult to say just which part of the stitch mechanism of the machine is out of adjustment. The sample clearly indicates that the needles are not in good alignment, and it is possible that perfect alignment of needles will eliminate the trouble.

We are quite sure that the trouble as shown by sample has been brought about by adjusting the machine for looser knitting in the welt; and we are quite sure that if the welt was tightened two or three courses per inch that the trouble would disappear. At the same time, the welt would probably be tighter than desired.

We suggest careful check-up on the machine heads causing the trouble, first seeing that needles are in good alignment and that they have uniform press at the point of casting off stitches. Then see that needles have enough drop or draw to perfectly and fully cast off all loops. This can be accomplished by slightly lowering drop of needle bar or by raising the knock-over bits—whichever seems advisable—after a careful check-up of the head has been made. After these two points have been correctly adjusted, it will then be in order to check on catch-bar action, seeing that dividers are brought forward enough to make a perfectly balanced division of stitches.

▼

Finishing Tapes and Ribbons

Technical Editor:

I am enclosing two samples, a cotton tape and a silk ribbon. I shall appreciate your giving me full information as to the method of finishing these materials and the different ingredients used in their finishing. Will you describe the method of calendering cotton tapes and and bindings after they are taken out of the bleach? (7813)

After the bleached or colored webbing has been received from the bleach house, it may be run loosely into boxes or baskets or may be wound onto small warp beams or reels. The particular method followed will be determined by the equipment at the calender. The strands of webbing from the different receptacles are passed over a rod arranged in front of the calender and at a distance of several feet from the floor, and then down to the size box, under the submerged roller, up between the squeeze rollers, and thence to the drying cans (See Fig. 1).

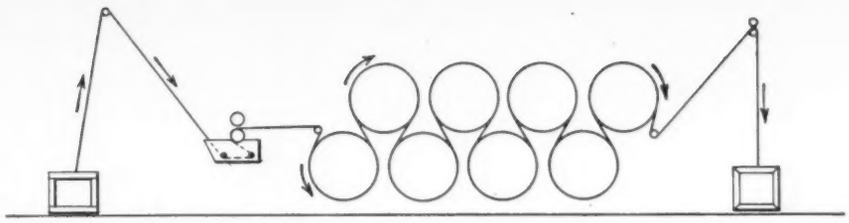


Fig. 1—Horizontal calender for finishing tapes and ribbons

There are probably as many different opinions as to what constitutes the best finishing bath for the types of fabrics which you submitted as there are different narrow-fabric concerns. A suitable bath for the cotton tape is as follows: 5 gal. water, ½ to 1 lb. potato starch, ⅛ to ¼ lb. corn dextrin. Boil together for 10 to 15 min. until all the starch is thoroughly cooked. The variations are for different degrees of stiffness. A suitable bath for the ribbon consists of ½ to 1½ lb. of a good quality of gelatin to 5 gal. water. The gelatin should be allowed to soak for several hours before use.

▼

Use of Potassium Carbonate in Silk Soaking

Technical Editor:

For soaking Japan silk we are using a formula containing potassium carbonate to the extent of 2½ lb. for ½ bale (65 lb.) of silk in 45 gal. of water. The remainder of the formula is made up of soap and raw neats-foot oil. We shall appreciate it if you will advise us as to the effect of potassium carbonate on silk and what you consider to be a satisfactory limit to use in soaking baths. (7818)

Potassium carbonate is a deliquescent material, and is added to a silk soaking bath for the purpose of making the finished thrown silk accept moisture readily. It also has another purpose, in that it serves to neutralize the acidity developed by the chemical reaction of silk gum with soap. This reaction is discussed by Hart and Searell, in *Industrial & Engineering Chemistry*, Vol. 22, pp. 980 to 83, 1930.

There is a critical point in the use of potassium carbonate; and, according to your formula it seems that you are using the limit for safety. Beyond this critical point you will get sloughing off of your soaking emulsions, which in turn will cause rusting of highly polished knitting machine surfaces and clogging of needles accompanied by imperfectly made hose. Your formula is not employed for crepe yarns used in the broad-silk trade, but no doubt it is satisfactory for hosiery tram of both high and low twist.

Inquiries should give the fullest information possible; and if damaged material is involved, a sample should be sent. We give no consideration to anonymous inquiries and do not undertake routine analysis of yarn or fabric, or investigation involving unusual expense.

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TEXTILE WORLD ANALYST

Responsibility-Dodging by Converter May Force Mill to Absorb His Function

Unethical pressure by a few converters in unwarranted cancellations and claims in the cotton goods industry, brings mills face to face with the question of absorbing the converter's function. Mills prefer to sell only to converters who carry the burden which is their economic justification: if the mill must carry the style risk it might as well operate a converting business.

THE unfortunate increase in the number of unwarranted cancellations and claims in the cotton goods industry, due to the actions of a small group of customers when faced with highly competitive conditions, is causing definite reactions among the mills, particularly those producing style goods. While mill men have grumbled in the past they are now inclined to go beyond the grumbling stage and consider ways and means of bringing about a remedy. Specifically, it is stated that a relatively small group of converters is taking advantage of general conditions to put unethical pressure on the mills, to the detriment of other converters and everyone connected with the industry. Specific remedies mentioned are: (1) refusing to sell to such operators, and (2) jumping over the converter entirely.

The manager of one mill which has been more successful than the average, and therefore cannot be considered as one of the chronic weeping sisters, states his views as follows:

"In dealing with the majority of converters our relations are on a high plane. Due to the ever-present human element in production there are times when such converters have a legitimate claim against the mill. Such claims are adjusted without difficulty and with satisfaction to all. It is a pleasure to do business in this manner, even though prices are not satisfactory.

"There is, however, a certain group of converters which apparently make claims on every lot of goods no matter what its condition. It is this group that causes all the trouble. I can recite case after case where claims have been made that any unbiased judge would say were absolutely unwarranted. For example, you may have an order calling for the use of 'inferior' rayon and have a claim put in because the 'inferior' rayon does not look the same as some 'inferiors' you ran six months ago. Who ever heard of standardized 'inferiors'?

"Such concerns must be trying to do one of two things: Either they figure that they will put in a claim on every lot of goods and thus reduce the purchase price, or they make a mistake in ordering a lot of style goods and expect the mill to cancel, or stand enough of a claim to make up for the loss occasioned by having to dispose of unseasonable merchandise. You can imagine the sort of competition such concerns cause the good converters. It is a shame to see the business drifting into such dealings.

"Of course, the worst of it is that the mills are desperate for business and keep hoping for the best. With the unfair converters holding up payment until the claim is allowed, and with legal methods so unsatisfactory, the situation is serious. I enjoy working with most of our customers and our whole organization does its best to cooperate. We are better off if we refuse to deal with concerns which do not operate on an ethical plane. We may not get enough business from the good converters to keep us going, but even if we go broke we'll go broke with clean hands."

Still another mill man goes even further in his analysis. He says:

"It must be understood that I am not criticising the vast majority of converters. I am merely trying to evaluate the possible results of certain factors that have come into prominence of late.

"To start at the beginning, the reason for the existence of converters is to take burdens from the mills. If the converters—meaning the whole system of converting—do not perform their function of taking burdens from the mills they have no real economic justification. At present it looks as though certain converters were trying to increase rather than lessen these burdens.

"Converters should assume style risks. The mill assumes certain other risks in buying raw materials, etc. Incidentally, when the mill buys cotton it stays bought, without unwarranted dickerings about claims. If the number of converters who try to throw the style risk back on the mills becomes large, the whole sysetm of having converters at all is affected.

"Many mills have been forced to do most of the styling because certain converters fall down on the job. Then again, many mills do not need to depend on converters for financing by means of short terms. Thus two of the original functions of the converter have tended to lessen.

"Viewed in this new light the cotton goods converter is placed in the same position as the jobber in textile and other lines. Recent economic history shows that the jobber survives only when he performs an economic function. Where he has tried to get out of the job of carrying stock, taking style risk, etc., he has been forced out, simply because he does nothing that the manufacturer has not been forced to do by the jobber's tactics.

"The big question is whether there are going to be enough converters doing business in a sound, ethical fashion to take care of the mills' production. If not, it is logical that a number of mills will be forced to dispense with converters. Such mills must study the problem carefully before making any move. No one is foolish enough to think that jumping over the converter will automatically throw out all trouble, but with mills already somewhat versed in styling and with knowledge of finishing the question may well be put 'if there aren't enough sound converters to take care of the business, and if the others don't do anything to lessen our burdens, why deal with converters?'

"As a specific indication of the results of the general situation that I have outlined, I might say that our concern is today giving serious study to the advantages and disadvantages which we, as an individual concern, would gain if we took over the converting function."

The merchandising discussion which appears regularly on this page considers various branches of the textile industry from week to week. It analyzes significant marketing trends or developments in those branches. While it covers current movements, its conclusions concern potential future significance of those movements, rather than the effect of temporary fluctuations in trade sentiment.

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YARNS AND RAW MATERIALS

TEXTILE WORLD ANALYST

◆Cotton Yarns Find Bright Spots

SCATTERED indications of improved conditions are reported in cotton yarns, but the volume of business being done is not yet sufficient to permit spinners to meet with success in their price efforts. There is evidence, however, that the weak spots are reduced in number, as there are fewer offerings at low prices than formerly. Nevertheless, it is realized that until buying becomes more general and in larger volume, there is little chance of establishing yarns upon a firmer basis. However, to place an order with a spinner this week, it was necessary to pay an advance of about ½c. over previous low levels. The one exception might be 30s-2 warps. This staple count is apparently in plentiful supply, and with limited call recently, it is still offered at 19c. to 19½c.

The one strong number on the list is 20s-2 warps. It is said to be impossible to secure this yarn from spinners at less than 15½c. In fact many spinners ask 16c. and even 16½c. for quality yarns. This count has sold at 16c. recently in several instances where quality was desired, with one good sized order noted. Plush business has been a slow factor, and conditions in upholstery fabrics have also been rather discouraging in such sections as Philadelphia. These mills have been suffering from the low priced competition by southern mills, following the strike of a year ago.

Carded knitting yarns continue quiet. One inquiry from a Pennsylvania mill this week for a good size quantity of coarse counts was receiving wide attention, and it was expected a low price would land the order. Dealers report good orders on their books for these yarns, on which they would like to see some specifications coming in. Prices for 10s of good average quality are still around 13c., but other grades are apparently available at lower figures; 30s double carded are being quoted firmly by spinners around 21c., and it is asserted this price will at least cover costs of production.

Single combed yarn inquiry is reported here and there, with efforts to pick up yarns at low prices. Buyers have been offering 24 and 24½c. for 30s, but there seems little chance for acceptance. Some sellers will take 25c., but others want 26 and 27c. Distressed lots, however, are diminishing, and spinners taking low price orders recently are not looking for any more such business. It is possible for combed yarns to advance 2 or 3c. with any development of trading. The price policy now maintained by mercerizers is also having a stimulating effect upon combed spinners. Mercerized yarns continue to reflect a more satisfactory situation. Specifications are coming in fairly well and new business also, so that the business on processors' books places them in a stronger position than for some time.

◆Cotton Trade Tapers Off on Decline

RATHER a reactionary tone has been evident in the cotton market during the week. No doubt the technical position had eased on recent advances and while southern selling was in no great volume, there was considerable realizing or liquidating on the declines of about 30 to 40 points from recent high levels. The action of the stock market on Monday and weakness in grain, no doubt contributed to this decline, but offerings were absorbed by continued trade buying or covering at the decline and the volume of business tapered off as if the market were inclined to await further developments.

Reports reaching here from the South with reference to the effects of the recent cold wave, which is said to have been one of the most severe on record for this season of the year, indicate that practically all early planted cotton in extreme south-Texas, will have to be replanted. According to some estimates this involves an area of about 250,000 acres. On the other hand, it is believed that temperatures were low enough to reduce the number of weevil in hibernation, although rather conflicting opinions are heard in this respect. According to the American Cotton Crop Service, the abnormally high winter temperatures caused a much larger percentage of weevils to leave winter quarters by Mar. 10 than usual this season, and there is little doubt that high mortality among the over-wintered weevils

(Continued on page 56)

Market Briefs

Cotton: Further reactions, but rallies meet declines.
Cotton Yarns: Buying drags as spinners hold prices.
Cotton Goods: Period of dullness extends, but statistical picture is strong.
Wool: Weakness evident in some wools after weeks of resistance.
Worsted Yarns: Dullest market on record, spinners say.
Woolen Goods: Spring goods clearing; fall openings late.
Silk: Light buying brings 10 to 15c. price decline.
Silk Yarns: Better spun silk call; thrown yarns quiet.
Silk Goods: Curtailment helpful; prints improve.
Rayon: Strong stock control policy adopted by industry.
Knit Goods: Cold weather hurts Easter hosiery sales, but meshes continue active; underwear lines move hesitantly; late rush for bathing-suits expected.

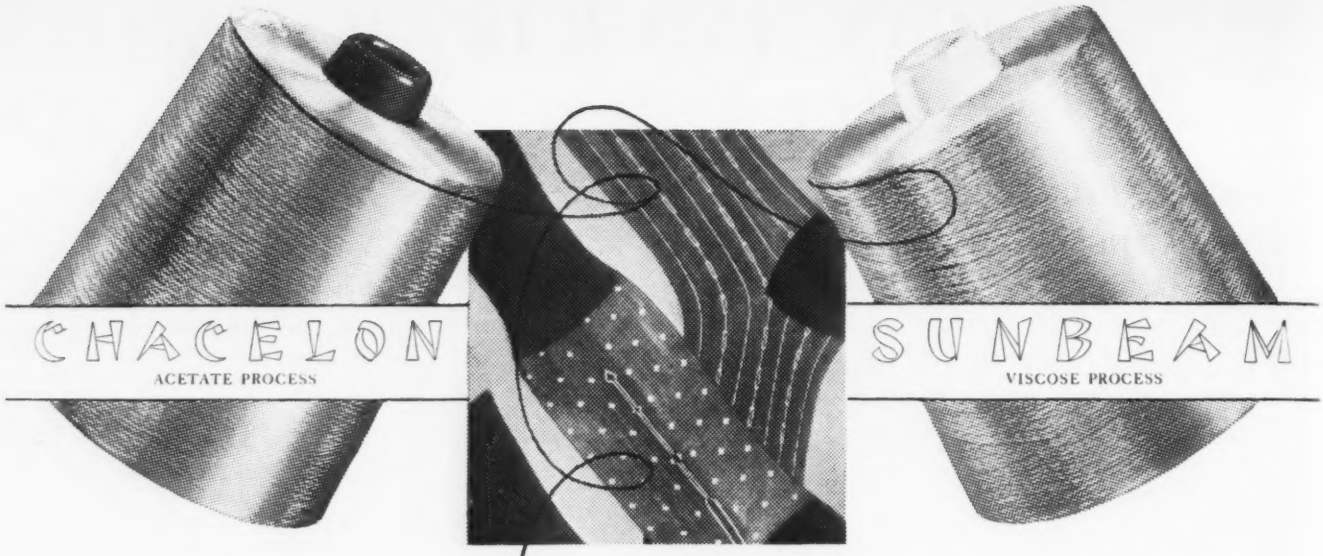
◆Worsted Yarns Still Await Demand

ANOTHER dull week has been added to the monotonous current history of worsted yarns. Even inquiry, dealers report, is much curtailed. Until recently demand for small lots for immediate shipment was well sustained, but now even this demand has slowed up, and business is as quiet as some factors ever recall. At the moment there appears little indication of any development.

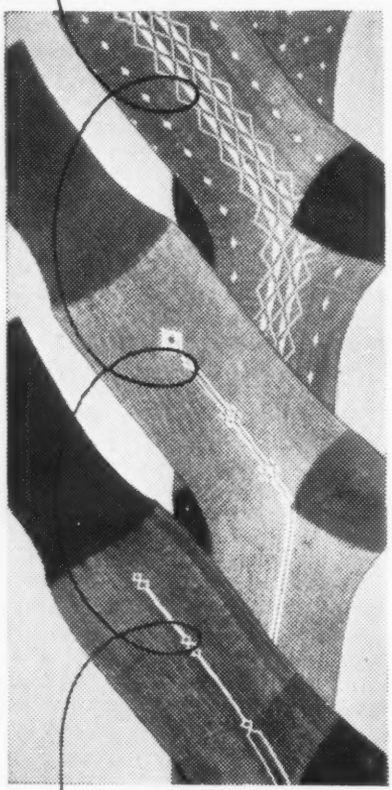
Such conditions are hardly conducive to full-time operation of spinning mills. Prices continue irregular, especially in weaving yarns, where in an effort to secure business, there has been a reckless tendency toward concessions. It would appear that spinners had given up all hope in the direction of profits in their efforts to book orders to keep mills in operation. It is certainly evident that price-cutting has failed to start any demand for yarns. In view of the long quiet period and limited movement of men's wear fabrics, there are some factors who anticipate development in the near future. They argue that the situation is such that buying will have to make its appearance. Indeed there are not a few who predict that the next buying movement will be seen in men's wear.

There are several who also hold the opinion that a helpful factor toward such a development would be a generally firm attitude on yarn prices, especially an advance in order to place yarns upon a profitable basis. More than one spinner is becoming weary of doing business at a loss. All the situation seems to need is a leader. An advance would certainly go far toward eliminating any idea of further price reductions, and tend to stabilize values and thus offer encouragement to buyers to operate. There are indications in the wool market that there will be ground for firmer yarn prices as the new clip approaches.

Knitting yarns are somewhat better placed than weaving yarns. While the usual call for small lots for immediate delivery has shown a decline, there has been somewhat more interest in specifications and new business for yarns for swim suits, but not to the volume which many anticipated. Credit conditions are playing an important part in slowing up this trade. The situation is considered a problem since time is rapidly passing, and limited supplies of goods are reported on hand. The question is whether there can be enough goods produced to supply the market. In view of the demand for the single-dyed, slub-dyed yarns, spinners are unable to fill these orders or specifications without the time required for the processes involved. Single 18s appears to be leading in in-



"They make better socks"



Bluntly and briefly, that sums up the story of Chacelon and Sunbeam, our acetate and viscose yarns. They work together for results like a team of well mated horses. The growing preference for these two yarns is often due to their superior performance in plating. They are producing sharper, clearer patterns—the kind that sell half hose today. Sunbeam (viscose) plates over Chacelon (acetate) perfectly. This prevents even the slightest blurring of designs.

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YARNS AND RAW MATERIALS

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terest with prices holding around 90c. There are many factors who believe it will not be long before the use of two-ply yarns will return if there is a continuation of the difficulty some knitters experienced with single yarns in production problems.

◆Wool Prices Sag on Lack of Trade

DEMAND for wool is slow and prices show a sagging tendency. All sections of the market are affected by prevailing dullness. Purchasing by topmakers and manufacturers is at a low ebb and yet a fair degree of firmness is seen in the best wools of the several grades in relatively small supply. Original bag wools are on a slightly lower basis than a week ago but this is not stimulating much immediate business. Low stocks in the hands of dealers and manufacturers and little new clip wool to arrive before the middle of May are relied upon to keep the market from crumbling under the pressure of manufacturing demand for a 50c. fine wool basis with correspondingly low prices on other grades. Concessions made at this time are mostly on odd lots.

Little has been done to date in acquiring new clip wool other than the extension of pre-shearing loans. Small quantities of Arizona wool have been bought outright, but even in that State the shearing is very backward. It is likely to be largely a consignment year.

Nothing has occurred recently in the foreign markets to disturb holders of domestic wools. Prices have been a trifle easier in London and Australia and also in South America, but a steady basis has been maintained in New Zealand. The U. S. Treasury Dept. has receded from its position that wool duty was to be assessed on a scoured basis, though no official decision has yet been made. Assessment of duty will continue as before, allowance being made for the presence in the wool of burrs, etc.

Some little buying of the several grades of territory wool has occurred at easier prices, the quarter-blood firmer than any other grade. Interest in Texas wools is at the low point of the year. Prices are slightly lower; insufficient business gives a nominal character to quotations.

The California wool group is very inactive. Quoted prices are approximately 2c. per clean pound lower than a week ago. Unsold stocks are small and have been well culled over. Piecing-out orders furnish a restricted business in fleece combing wools. Delaine of the Ohio type can be bought at 22½c. but inferior delaine and of heavier shrinkage is offered as low as 20c.

◆Slow Demand for Wool Substitutes

DEMAND for woolen rags and their processed products is still well below normal. Woolen manufacturing made a substantial gain in operation in January, woolen cards operating 10% more actively and woolen spindles 13%. Unfortunately for the rag and rework market the increased use of raw material was not reflected in a larger demand on rags and reworks, the needs of the mills for wool substitutes being met to a large degree by noils and mill wastes. Imports of old woolen rags have ceased these many months, but clips continue to be imported on a moderate scale. During the first half of 1931 total imports were 597,000 lb. and for the second half 430,000 lb.

Noils are moving slowly, at prices prevailing for the last few weeks. Dealers are sitting on their holdings confident of a better movement later. Manufacturers state their purchases are for completion of orders and that they will do little buying until additional orders have been received.

Business in wool wastes is arriving sluggishly. Mills engaged on early spring fabrics seem to have covered their needs to a large extent. They are still interested in the market, however, and are making inquiries regarding the types of wastes they are in the habit of using.

◆Rayon Sales Drop; Weavers Not Buying

RAYON yarn sales at mid-month indicated that the total for March might be considerably less than February. There was fair buying this week, but all orders were small, and producers regard the outlook as very uncertain. The decline in rayon business, while general enough to cause trade-wide curtailment, appears to be mostly at the weaving end.

The backward spring season has slowed up all broad fabrics and rayon flat crepes suffered accordingly; at present the weavers place little or no yarn business. Underwear and hosiery mills also have eased up on production, but to a less pronounced degree. The underwear group told their rayon sources this week that they expected to resume active buying shortly.

Weather is believed to be a vital factor, though low silk prices also are an influence. Rayon producers look for improvement when the temperature becomes more seasonable and meanwhile practically all companies are holding down rigidly on yarn output.

◆Spun Silk Improves; Thrown Yarn 10c. Off

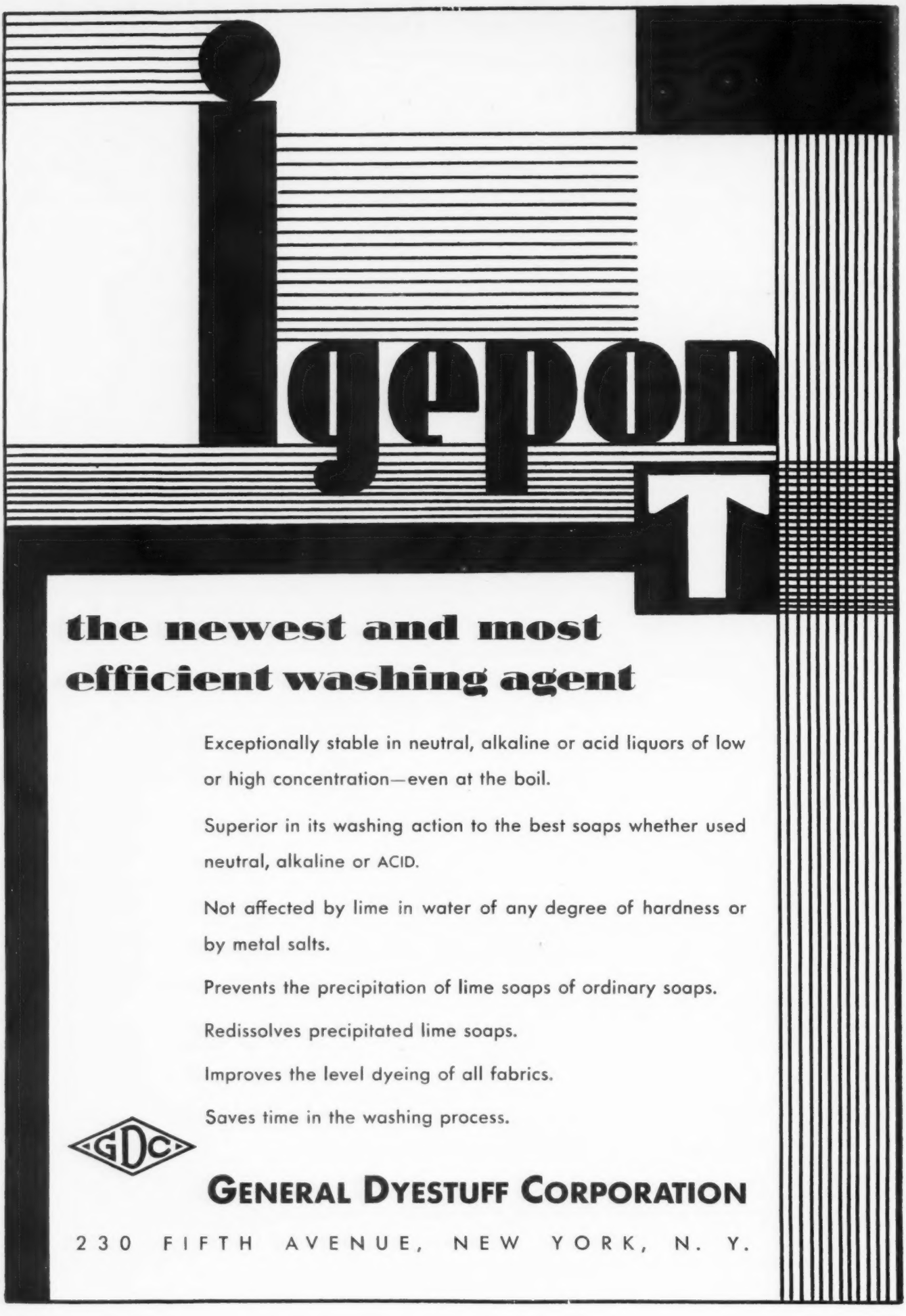
UNEVEN buying continued the chief characteristics of the silk yarn market this week, but there seemed to be a better feeling in some divisions. Spinners reported a moderate call from the broadsilk trade which together with fair buying by underwear manufacturers, totals enough volume to keep their light stocks moving. The spun yarn mills are hopeful that shantungs will prove active among the late spring fabrics, bringing a call for yarns; the whole range of broadsilks is so late that they believe shantungs may yet have an inning. Spun yarn stocks are low, thanks to curtailment, and prices are steady.

Throwsters reduced prices 10c. reflecting raw silk declines, but integrally their price strength remained unchanged. Demand from all groups has weakened; the cold weather has discouraged weavers and orders from fabric mills have shrunk to an exceedingly low point; hosiery mills also have cut production and are placing very little business. Improved weather conditions would help all thrown yarns, factors believe, and they look for a pick-up early in April. Criticism by hosiery knitters of silk quality continues, but it is less marked than several weeks ago.

◆Lull Brings New Raw Silk Decline

LACK of demand in the American market and an uncertain tone in Japan brought further declines in the raw silk market this week. Prices of 13/15s dropped about 10c. while a 15c. fall was registered in the 20/22s both white and yellow. The recession failed to stimulate buying, having indeed rather an adverse effect since it accentuated the feeling among possible buyers that silk may go further down. This was especially true at the broadsilk end; fabric mills have practically suspended all raw material contracts. Spring movement of broadsilks, which started developing a bit hesitantly at the end of February, was frozen up in the new cold wave. Just now weavers are curtailing generally, the outlook is viewed by importers as doubtful.

It is clear that raw silk sales for the first quarter will be a disappointment. Even hosiery mills, which held strong for the first eight weeks, slumped in consumption this month, and of late the orders from these knitters have been light. Improvement is noted among some firms selling to the hosiery trade this week, however, and a pick-up is expected.



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FABRIC MARKET REPORTS

TEXTILE WORLD ANALYST

◆Cottons Are in Waiting Period

WHETHER conditions in the cotton goods market will improve before the end of the month is a matter for various opinions this week. Business has been dull for a number of weeks and the time is drawing near when another spurt is altogether reasonable. Although buyers have been arguing that they want stability of prices, they have nevertheless been trying out the market for weak spots very diligently during the last week. The rumor crop has been fruiting more extensively than for some time past, and it is said that a number of large houses were kept busy denying that they had accepted large orders at cut prices. In the gray goods field, second hands have been selling at slightly under first hand quotations, but the volume so handled is not regarded as being important.

Early this week the gradually improving financial picture was shadowed by the suicides of two important industrial figures. Security and commodity markets eased, but observers believed that this would have been the trend without these untoward incidents. Cotton eased along with other commodities but traders felt that it was unlikely that price swings would go far in either direction at the present time.

Blankets To Advance

Blanket manufacturers, including part wool and all wool have been informing their trade this week that advances on various lines will go into effect on April 2. It is said that buyers' backwardness and the loss of a three-month manufacturing period with consequent heavier overhead to be laid on the remainder of the season's output, is a prime cause behind the advance. Sellers say that opening prices were too low to permit profit in any event, or that they anticipated low raw material basis which never developed. Buyers have several weeks to estimate their needs and cover to what extent they please ahead of the effectiveness of the advance. It is said that already there is a better current of orders flowing into blanket mill offices. Better business has been the experience of many lines which have been advanced in price since the turn of the year.

Watch Sales Tax Plan

Possibility of making effective a sales tax through Congressional legislation is being considered by many on the cotton goods market and hope is expressed that a way will be found if the tax is levied to distribute the burden over the many hands which handle cotton materials from the cotton field to the fabric user. Finishers have added a clause to their price-confirmation forms to the effect that any State or Federal tax applied to any contract growing out of the quotations mentioned will be charged to the buyer's account. Several other manufacturers are stating that orders hereafter taken will be subject to any manufacturers' sales tax which may be imposed.

Although fine and fancy gray goods are quiet for the present, it is believed that this comprises one of the best positioned branches of the field. Wise merchants point out that in novelty lies the best opportunity for profit. Where something is offered that buyers cannot get elsewhere, they must pay the asked price if they are to get the material at all. The originator of novelties can always be one jump ahead of the copyists who compete keenly with each other and who eventually cut whatever profit there was in the novelty out of it.

◆Broadsilks Aided By Curtailment

DECISIVE steps toward curtailment of broadsilk output have been taken by leading weavers during recent weeks, and the result is beginning to show in a healthier stock situation. Demand is so feeble that prices continue weak, but manufacturers are more confident with respect to outlook. There was a flurry of Easter buying early this week and further Easter business is expected.

The hand-to-mouth policy is being applied to the nth degree by the cutting-up trade, due largely to the strike problems in New York. Whereas ordinarily all Easter business would have been placed weeks ago, weavers this week were still writing orders for that season and they expect increasing call up to a few days before Easter.

Demand for printed flat crepes has grown and some lively buying has been done. Several important mills are showing new print lines for summer; black-and-white small designs are stressed. There is a fair call for rough-faced goods, and a light shantung demand; chiffons pick up gradually, demand being chiefly for the heavier weights. Georgettes show activity.

◆Mills Clearing Spring Wool Goods

CLEARANCE of spring suitings and topcoatings and plans for fall lines occupied the attention of the men's wear end of the wool goods market this week. Cutters-up of men's apparel continued to show interest in current fabrics, but there was considerable price emphasis and style counted much less than the weavers had hoped; end-season stocks were moderate, which helped to offset the price weakness.

There is complaint among wool goods houses, of the perpetual insistence on price. While an occasional trend to quality is noted, business is still largely a bargain proposition. When it is suggested to a mill executive that more original fashioning of men's fabrics might help prices, he is apt to answer that buyers are not interested in styling. The real cue, apparently, would be to apply the style appeal emphatically as soon as business shows its long-awaited turn upward.

Sentiment regarding fall is confident, though no one looks for quick response to the openings. Topcoatings fared well this year, due to the mild winter in December and January, and firms specializing in this line look for some more duplicate business before the close of the season. Women's wear lines for spring continue moving, and at that end, mills report little interest in fall. Indications are the Easter total of business will be disappointing to all but a few groups; fall lines will be shown by some houses immediately after Easter, but the trade as a whole probably will not open until well into April.

Continued Improvement in Cotton Goods

IT WAS predicted in some quarters at the end of the year that the first part of 1932 would bring no such opportunity to cotton goods producers as developed during the early months of 1931. Statistics to date do not bear out this prediction. Both production and shipments of carded cotton cloths during the first two months of 1932 exceeded production and shipments during the same period last year by approximately 15%. Sales were about 3% greater. Stocks on hand at the end of February this year were 25% less than those on hand at the end of February, 1931. In fact the former represented the smallest stocks since comparable figures became available in January, 1928.

Evidently the opportunity for business—and for a profit—still exists, if the industry cares to grasp it.—*Editor.*

KNIT GOODS MARKETS

TEXTILE WORLD ANALYST

◆Summer Underwear Selling Ahead

THE backward response to fall underwear lines now on the market would seem to confirm the judgment of those mills which are still holding off on announcing their fall merchandise. A considerable percentage of the winter underwear mills have withheld their lines, and these firms are not disposed to hurry their showings; several representatives when questioned this week, talked vaguely of opening "sometime in April."

The steady call for spring and summer underwear continues, which serves to discourage further stress on fall lines. While lightweight underwear demand represents substantial volume at present, the business is uneven. Some firms report that they had good demand at the beginning of the month but now orders have slackened; other mills, however, are exceptionally busy and in the case of one well known company, orders are being booked for end-April delivery.

Lightweight underwear call stresses the knitted lightweights as against athletics, and mill men expect the former to be a leading line. Women's rayon garments move less spiritedly than last month but there is still considerable activity here, especially for southern shipment.

Reports of price weakness in winter underwear, are attributed to buyer instigation, as inquiry has wholly failed to substantiate these claims. There is no inducement to cut at that end, as stocks are very low and mills restrict output almost entirely to sample merchandise.

◆Mesh Hosiery Boom Cuts Staple Output

WITH the hosiery market approaching its final pre-Easter week, it becomes evident that the Easter season is too early—and too cold—this year to prove a real stimulus to buying. Ordinarily an early Easter is welcomed by hosiery mills, but the unusually low temperatures prevailing through March this year served to offset the advantages of the advanced date. There was a steady demand for all hosiery lines last week, and in women's mesh and lace hosiery orders were well in excess of supplies. Even in the novelties, however, distributors are not buying ahead to any extent; if they cannot get a promise of delivery in three weeks, they usually try elsewhere.

More mills are installing the equipment needed for mesh hosiery production; these firms are curtailing so drastically on output of staples that the position of the latter lines has strengthened perceptibly. Several Worth Street agents reported that their mills, hitherto producers of 50% mesh and 50% staple full-fashioned, now are running 75% on the mesh lines. It is evident that numerous of these firms are going to end the first quarter in good financial position, due to the healthy margin prevailing in mesh hosiery business.

Easter demand for half-hose has increased and there is a decided trend to better quality. Buyers in the market last week frequently passed over the lines retailing at 25 and 35c. and placed orders for the 50c. merchandise. In a few instances some good-sized orders for the quality lines, upwards of 50c. were written. This tendency to better merchandise in men's goods is not general but it is regarded as promising.

◆Spring May Bring Swimsuit Congestion

BATHING-SUITS showed no definite improvement this week, and prospects point to congested buying when the warm weather starts. Much initial business has yet to be placed, and it is a lucky mill that has any duplicate business on the books. The week brought pressure at the low-priced end, with some manufacturers willing to make concessions. True levels for a given line are difficult to ascertain, due to the wide divergence between quotations. The larger firms claim to be holding to the quotations they announced early in the season, but smaller firms are getting worried and are ready to trim prices to effect turnover.

Men's sweaters were in demand in the spring weights, but all orders were small. Women's worsted pullovers, while less active than at the opening of the month are moving steadily. Fall sweater lines, which opened a month ago, are still backward and there is little prospect of any early action at that end. The cold weather this month has added to the chronic hesitancy of distributors as regards buying ahead of season, and no pick-up may be looked for at least until spring is well under way.

There is considerable interest in fancy sweater-blouses and some mid-western mills are writing capacity orders for this line. Both spot and future business is being placed.

The possibility of knitted outerwear fitting into the Woolworth picture in the 20c. range was being discussed in the market this week; manufacturers cannot see much of a market here, except in rayon garments; it is expected that considerable rayon outerwear may find its way to Woolworth counters, low-priced berets in particular.

◆Raw Cotton Reports

(Continued from page 51)

occurred in areas where temperatures dropped below 20° above zero. In the southern half of the belt, or the area where temperatures failed to fall below 20°, a few weevils were probably killed but evidence points to the weevil having materially benefited by temperatures low enough to check emergence and force a large percentage of the active weevils to re-enter hibernation to emerge at a later date when green cotton will be available for food.

Meanwhile, if anything, there has been a slight tendency toward increased estimates of this season's world's consumption of American cotton. Cotton mills at Shanghai are reported to be starting up again, while the increased activity in Lancashire continues, and some improved reports have been coming in from France and Italy. The New York Cotton Exchange Service has revised its preliminary estimate, raising the world's consumption of American lint cotton for the first half of the season from 5,997,000 bales, to 6,150,000, which would be at the rate of 12,300,000 bales for the year. Trade estimates run on up to 13,600,000 bales.

The fear of increased spot offerings before the season is over, remains in evidence and no doubt has a tendency to check buying on advances. Spot demand has tapered off since the filling of February engagements, but the basis remains steady, and as yet there has been no indication of uneasiness or any general disposition to liquidate spot holdings in the South.

◆Cotton Wastes Quiet; Prices Continue Firm

COTTON waste demand fell off somewhat this week. Southern mill buying of peeler and upland strips, and export demand for peeler comber furnished the bulk of activity while threads and stuffing materials were quiet. Quotations on all classes of wastes continue steady, no quotable change having occurred during the last two or three weeks.

Cotton waste merchants who have been anticipating a resumption of normal export business to the English market have been encouraged by the strong rise in the pound sterling which puts the English buyer in a better position to purchase comber and other wastes in the American market. There has been a moderate export business to the Manchester district of late, and any expansion in demand from this quarter will have a bullish effect upon the waste market as a whole.

◆ Merrimack Mfg. Co's. Loss Larger

THE Merrimack Mfg. Co., cotton goods, Lowell, Mass., and Huntsville, Ala., reports for the year ended Dec. 31, 1931, net loss of $2,298,308 after depreciation, taxes, inventory write-offs and other charges; this compares with a net loss after similar charges in 1930 of $2,122,776. After applying credits from contingent and inventory reserves, previously set up, there was a shrinkage in profit and loss account in 1931 of $1,102,225, as compared with a shrinkage of $451,961 in 1930. Yardage sales in 1931 totaled 62,268,601, a gain of 2,317,079 over 1930. Net quick assets at the close of 1931 stood at $2,290,074, whereas working capital a year before amounted to $3,372,383.

Celanese Profit Smaller

The Celanese Corp. of America reports for the year ended Dec. 31, 1931, net income of $1,010,094, after depreciation and amortization, but before deducting inventory write-downs, which have been provided for by a special reserve created since the close of the year. For 1930 the company reported a net profit of $1,919,950, and for 1929 a net profit of $2,952,321.

The company's balance sheet as of Dec. 31, 1931 showed current assets of $11,142,515, and current liabilities of $1,091,090, leaving working capital of $10,051,425, which compares with working capital at the close of 1930 of $11,128,304. A special reserve of $1,732,722, arising from a change in capital, has been provided for inventories, plant obsolescence and contingencies; paid-in surplus has been absorbed, and earned surplus has been reduced from $2,704,595 to $2,392,337.

Firestone Surplus Gains

The surplus of the Firestone Cotton Mills, Fall River, Mass., according to the statement for the fiscal year ending Oct. 31, 1931, was $990,120, as against $445,925 the previous year. The funded debt was also reduced by $557,000 to $10,893,000. The statement, as filed with the state commissioner of corporations shows a total of assets amounting to $14,273,754.

General Cotton Shows Surplus

The annual meeting of General Cotton Corp. was held Mar. 9 at Dover, Del., at which directors were elected for the ensuing year and the financial statement for the year ended Dec. 31, 1931, was rendered. The balance sheet shows paid in and capital surplus of $408,973, and earned surplus of $43,550.

The balance sheet, as of Dec. 31, 1931, follows:

Assets—Cash, $118,086; Davis Mills Corp., $450,000; Lincoln Mfg. Corp., $159,375; other assets, $24,560; subscriptions receivable, $395,842; advances, $5,126. Total, $1,152,991.

Liabilities and Capital—Capital stock subscribed, $395,842; capital stock, no par value, less treasury stock, 11,073 shares; $304,624; paid in and capital surplus, $404,973; earned surplus, $43,555. Total, $1,152,991.

Penman's Makes Profit

Penmans, Ltd., Montreal, 26th annual report for the year ended Dec. 31, 1931, records sales for the year at $5,352,128, a decrease of $630,804. Gross profits amounted to $313,578, compared with $332,977 in the preceding year. Deductions left net earnings at $145,034, against $189,262 in 1930.

Financial Brevities

Stockholders of the Nashawena Mills, New Bedford, Mass., have voted to change the 75,000 $100 par shares to no par stock. Capital will be reduced by $1,500,000 by charging capital account with that amount and making corresponding adjustments in surplus accounts. Remaining surplus will be made available for other corporate purposes.

Stockholders of American Printing Co., Fall River, Mass., have voted to change 30,000 no par common shares into 30,000 no par preferred shares, and to reduce the remaining 270,000 no par common to 50,000 shares. These changes do not constitute a reduction in capital.

Acushnet Mills Corp., New Bedford, Mass., has declared a liquidating dividend of $3.25 per share, payable Mar. 28 to stock of record Mar. 15.

Artloom Corp., which controls the Artloom Rug Mills, Philadelphia Pile Fabric Mills and Philadelphia Tapestry Mills, reports for the year ended Dec. 31, 1931 net loss of $395,246 after depreciation, which compares with a net loss of $352,876 in 1930.

West Point (Ga.) Mfg. Co. has omitted the quarterly dividend due at this time, the first such omission since 1889.

Martel Mills, Inc., operating several southern cotton mills, reports for the year ended Oct. 31, 1931, net loss of $107,853 after depreciation, interest and other charges, compared with a net loss in 1930 of $764,232.

Boston Stock Auctions

The following sales of textile shares were made at the Boston auction, March 9:

Shares	Mill	Par	Price	Change
1	Newmarket	100	10	+5
51	Naumkeag	100	48	—2
30	Amoskeag Mfg., pfd	100	44	...
82	Total			

▶ Textiles on N. Y. Exchanges

The following shows the movements of the leading textile stocks listed on the New York Stock Exchange and Curb for the week ended March 15.

	High	Low	Last Sale	Net Change
Adams-Millis	30¾	28	28	—2
*American Thread pfd	2⅜	2⅜	2⅜	+ ⅛
American Woolen	4¼	4	4	— ⅛
American Woolen, pfd	30¼	25½	26	—4
Belding-Heminway	4¼	4	4	— ⅛
Botany Mills, A	1¼	1	1	...
Cannon Mills	19	18½	19	+ ½
Century Ribbon	5½	5½	5½	...
Collins & Aikman	10½	8½	9½	—1
Consolidated Textile	¼	⅛	⅛	...
Duplan Silk	10	10	10	...
Gotham Hosiery	11½	10¾	10¾	— ⅛
Industrial Rayon	36¾	33¼	33¾	—3¼
Kayser, Julius	8⅛	8	8	— ⅛
Kendall, pfd	34½	33	33	+ ½
Mohawk Carpet	9½	8	8	—1½
Munsingwear	14¼	14¼	14¼	...
Pacific Mills	9¾	9¼	9¾	— ⅛
Real Silk Hosiery	5¼	3½	4¼	+ ⅛
*Tubize	4½	3½	3½	—1½
United Piece Dye Wks	9¼	8½	8½	—1½

*Listed on Curb.

▶ New England Textile Stocks

	Sale	Bid	Asked
Am. Mfg. Co., pfd	50	45	..
Amoskeag	4½	..	..
Arlington	12¼	10	15
Associated Textile	10	..	10
Bates	10	10	12
Berkshire Associates, com	1½	1	2
Berkshire Associates, pfd	40½	10	12
Bigelow-Sanford, com	16	..	..
Edwards	80½	40	45
Farr Alpaca	27	15	17
Hamilton Woolen	47½	45	50
Hill	7	2	5
Ludlow	56½	50	53
Merrimack, com	3½	4	..
Nashua, com	3½	3	6
Nashua pfd	29	15	..
Maumkeag	48	48	51
Newmarket	10	9	12
Otis	45	41	45
Pacific	10	..	..
Pepperell	34¼	37	40
Plymouth Cordage	49	48	52
West Point	35	32	35
York	8¼	4	..

▶ Southern Mill Stocks

(R. S. Dickson & Co., Charlotte, N. C.)

	Bid	Asked
Acme Spinning Co.	25	36
American Yarn & Processing Co.	..	25
Chadwick Hoskins Co. (Par $25)	4	8
Chadwick-Hoskins Co., 8% pfd.	60	71
Crescent Spinning Co.	22	35
Durham Hosiery, 6% pfd.	15	17
Erwin Cotton Mills Co., 6%, pfd.	88	94
Flint Mfg. Co.	..	45
Flint Mfg. Co., 7%, pfd.	..	75
Hanes, P. H. Knitting Co.	..	6
Hanes, P. H. Knitting Co., 7%, pfd.	70	80
Linford Mills	22	35
Perfection Spinning Co.	27	42
Roanoke Mills, 1st pfd., 7%	27	36
Rosemary Mfg. Co., pfd., 7%	60	..
Stowe Spinning Co.	..	35
Ware Shoals Mfg. Co.	..	80
Ware Shoals Mfg. Co., 7%, pfd.	75	82
Winget Yarn Mills Co.	..	42
Wicasset Mills Co.	100	120
(A. M. Law & Co., Spartansburg, S. C.)		
Avondale Mills, Ala.	500	600
Bibb Mfg. Co.	65	70
Clifton Mfg. Co.	50	55
D. E. Converse Co.	40	46
Dunean Mills	70	75
Dunean Mills, pfd.	90	95
Gossett Mills	..	25
Hunter Mfg. & Com. Co., pfd.	50	57
Judson Mills, A pfd.	68	72
Judson Mills, B pfd.	..	66
Monarch Mills	..	65
Newberry Cotton Mills	50	60
Orr Cotton Mills	..	30
Pacolet Mfg. Co.	..	20
Piedmont Mfg. Co.	52	58
Riverside & Dan River Mills (Par $25)	5	7
Riverside & Dan River Mills (6%, pfd.)	48	54
Southern Bleachery & Print Works, pfd.	..	40
Spartan Mills	..	80
Union-Buffalo Mills, 1st pfd.	25	30
Victor-Monaghan Co.	38	41

Sloan Finds Cotton Textile Situation Encouraging

ALTHOUGH cotton manufacture has long been a highly individualistic industry, the constituent units have made significant progress toward sound cooperation in dealing with economic and social problems. Furthermore, the industry is assuredly more alive today than ever before to the possibilities of increasing demand by improving its designs and product and by instituting vigorous merchandising efforts.

These thoughts are emphasized by George A. Sloan, president of the Cotton-Textile Institute, in an interview with Samuel Crowther, published as a chapter of Mr. Crowther's new book "A Basis for Stability" [Little, Brown & Co., Boston.]

There is much in the cotton textile situation to lend encouragement, Mr. Sloan concludes; the prospective large supply of raw cotton, and its low price, will give tremendous impetus to the intensive work which the industry has been doing to expand the uses of cotton.

Concisely but comprehensively, Mr. Sloan surveys the background and structure of the industry; the trend from a speculative basis to operation along strict manufacturing lines; the movement, although all too limited, toward consolidation; and finally the cooperative effort to achieve stability.

He outlines briefly the attempts to correct over-production. "With a view to arousing in the mind of the individual mill executive a sense of responsibility toward the industry as a whole," he states, "the institute endeavors to keep his attention perpetually centered on balancing production with demand."

Among the activities developed to this end, he cites the compilation of statistics on production, stocks and orders. He also analyzes the background and potential significance of the elimination of night employment of women and minors in cotton mills.

Much of the chapter is devoted to the progress being made in developing new uses, and expanding existing uses, for cotton.

The contribution not only will help materially to interpret the constructive activities of the cotton industry to outsiders, but represents an excellent summary which should be of interest to cotton manufacturers themselves.

▸ Design as a Merchandising Factor

(*Continued from page* 35)

their position. This means that a design to be put out at the beginning of a fashion curve may be sophisticated and daring since it will be made for an expensive line, whereas that design made for the same fashion well along on its curve (when it has reached medium-priced merchandise) must be more conservative. In the same way the color combinations at first can be more subtle than when a volume product is demanded. This is illustrated by the designs and colors used in the shops along 57th St. and those along 14th St. in New York. Without criticism of either, one may note a difference and it has to be considered in designing.

To make a marketable design one must consider art, fashion, and sales price range. Unfortunately there are many manufacturers who do not take all these factors into consideration with the result that many bad and inappropriate designs are dumped on the market so cut in price to dispose of them that the whole market is affected and the good designs have to suffer with the bad. This state helps no one, so perhaps we may come to see a time where in the selecting of a design these different aspects of the question are all considered.

It will be found that fashions start among the most expensive and travel down through the price ranges to the lowest. Not all those styles represented by high prices become fashions, but the gradual acceptance of any one in the next lower price indicates that it may become one, whereas its appearance later in the medium price group establishes it. Experience is necessary to judge at the beginning what styles will become popular fashions.

▸ S. T. A. Annual Meeting Announced for June 24 and 25

The Southern Textile Association will hold its 24th annual meeting in Hendersonville, N. C., popular summer resort near Asheville, on June 24-25, according to an announcement received this week from the office of Walter C. Taylor, Charlotte, N. C., secretary and treasurer of the association. Mayor W. M. Sherard, of Hendersonville, is a past president of the Southern Textile Association, and the meeting will receive the full cooperation and support of the city. There are many attractive hotels in Hendersonville and a large attendance is anticipated for the meeting.

▸ Georgia Manufacturers Meet in Atlanta April 5 and 6

Manufacturing costs, freight rates, practical textile research and the relationship of State government to industry are among the subjects to be discussed by speakers at the 32nd annual convention of the Cotton Manufacturers Association of Georgia, to be held in the Atlanta-Biltmore Hotel, Atlanta, Ga., April 5 and 6. President D. W. Anderson, of New Holland, Ga., will preside.

The first session, scheduled for 7:30 o'clock Tuesday evening, will be in the nature of an executive session for mill officials only, consisting of open and informal discussions of the following subjects, with speakers and discussion leaders as indicated:

"Costs in Relation to Management." By E. G. Field, of William H. James & Associates, Atlanta, Ga.

"Industry and the State Government." By J. H. Cheatham, president, Georgia-Kincaid Mills, Griffin, Ga.

"Progress of the Cotton Factory Products Freight Rate Case." By W. D. Anderson, Sr., president, Bibb Mfg. Co., Macon, Ga.

"Other Associational Activities and Committee Reports." Discussion led by D. W. Anderson, president, Cotton Manufacturers Association of Georgia.

The second session will be held Wednesday morning when members of the association will hear an address of welcome by Roy Le Craw, president of the Atlanta Chamber of Commerce. "Practical Research in Textile Education—Why, How and Where," will be the subject of an address by H. H. Willis, director of the Clemson College (S. C.) Textile Department. President D. W. Anderson will also deliver the president's annual address, while annual reports will be submitted by Norman E. Elsas, of Atlanta, treasurer; T. M. Forbes, of Atlanta, secretary of the association; and E. A. Stephenson, manager of the traffic department.

▸ Sulphonated Oil Makers Carry Forward Constructive Plans

Material progress was made at a recent meeting of the Sulphonated Oil Manufacturers Association in the furtherance of its program of constructive activities designed to improve industry conditions.

A code of business practices, which had been drafted by a committee appointed at the preceding meeting, was thoroughly discussed and tentatively approved. The code will come up for formal adoption at the next meeting. The committee on testing and grading methods reported progress and the chairman stated he hoped to submit a complete report to the next meeting for discussion and ratification.

It is the belief of many in the industry that current knowledge as to the volume of production, sales and stocks on hand is essential to any stabilization plan. A committee was named to develop a statistical reporting plan.

It was also suggested that a survey of cost accounting methods might prove of great benefit to the industry, and a committee was appointed to give the subject further study and report at a subsequent meeting.

It is the feeling of the association members that, although the organization is only three months old, the groundwork is being laid on which a structure of service to both sulphonated oil manufacturers and their customers can be erected.

▸ Dahne Quits Cheney Bros. To Join Bornstein & Zahler

John J. Dahne, merchandise manager and stylist of the men's wear division of Cheney Brothers, New York City, has resigned that post to accept a position with Bornstein & Zahler, 171 Madison Ave., New York, where he is organizing a new department to develop "Granville Fabrics."

▸ Textile Luncheon at Export Club Get-Together

Walter S. Brewster, of Pacific Mills and vice-president of Textile Export Association, will be chairman of a textile group luncheon at the annual get-together of the Export Managers Club of New York, Hotel Pennsylvania, New York, March 22. Frederick A. Colt, secretary, Textile Export Association, and J. J. Murphy, chief of commercial office, Department of State, Washington, are the two scheduled speakers. The club has interesting general sessions in the morning and afternoon, with a banquet in the evening.

▸ Convention of Phi Psi to Be Held at Blowing Rock, N. C.

The annual national convention of Phi Psi textile fraternity will be held at Blowing Rock, N. C., on May 13, 14 and 15. Headquarters will be at the Green Park Hotel.

Arthur R. Thompson, Jr., superintendent, North Carolina Finishing Co., Yadkin, N. C., near Salisbury, is grand president of the organization, which has approximately 1,500 members in the textile industry, including active members in chapters in eight textile schools and alumni and honorary members in various branches of the textile manufacturing and allied industries.

J. V. Killheffer, of E. I. du Pont De Nemours & Co., Charlotte, is general chairman of the program for the meeting. Parker H. DelPlaine, of Rohm & Haas, Charlotte, and J. W. Ivey, of Mathieson Alkali Works, Inc., Charlotte, will be in charge of transportation; and F. W. Warrington, of W. A. Kennedy & Co., Charlotte, is chairman of the entertainment committee. Aug. W. Smith, Jr., Brandon Mills, Greenville, S. C., who is grand secretary of the national organization, and William G. Blair, are in charge of registration. Housing will be handled by Grand President Thompson and Otis P. Mills.

▸ Sigma Phi Tau Holds Annual Convention

The 17th annual convention of the Sigma Phi Tau textile fraternity will be held in New York City, March 25 to 27. Charles M. Hayman, of Kurtin Textiles Corp., is president of the grand council.

▸ R. L. Huffines, Jr., Organizes Claytex Mills

Claytex Mills, Inc., with mills at Clayton, N. C., and sales offices at Providence, R. I. and New York, has recently been organized for the manufacture of 12s to 30s carded yarns, single and ply, put up in warps, tubes cones and skeins. R. L. Huffines, Jr., is president and treasurer and McDonald Dixon is vice-president and secretary. Mr. Huffines was formerly sales manager for Rockfish Mills, Hope Mills, N. C. Mr. Dixon has had wide manufacturing experience, having been with the Sterling Cotton Mills, Franklinton, N. C., the Martel Mills, Philadelphia, and with Rockfish Mills, first as assistant superintendent and later as Philadelphia sales representative. Both Messrs. Huffines and Dixon are graduates of the Philadelphia Textile School. Associated with them in the new enterprise will be G. L. Pruden, for five years cotton buyer for Rockfish Mills. The Providence office is in the Industrial Trust Building and the New York office in the Rex Cole Building.

▸ Ragan Spinning Co. Is Independent Company

Ragan Spinning Co., Gastonia, N. C., operating 12,000 ring spindles on fine combed yarns, is an independent company and not connected with Textiles-Incorporated, of Gastonia, as erroneously stated in the March 5 issue of TEXTILE WORLD, page 28. Officers of the company, which was organized in 1923, are the following: George W. Ragan, president; R. L. Stowe, of Belmont, N. C., vice-president; Caldwell Ragan, treasurer; and George W. Ragan, Jr., secretary and assistant treasurer.

▸ Marine Corps Asks for Textile Supplies

Bids will be received Mar. 28 by the Depot Quartermaster, U. S. Marine Corps, 1100 South Broad St., Philadelphia, Pa., for supplying 90,000 yd. mosquito netting, 250,000 yd. cotton khaki shirting; 250,000 yd. khaki suiting.

Bids will also be received until 11 A. M. Mar. 29 by the Depot Quartermaster, U. S. Marine Corps, Philadelphia, for furnishing 100,000 yd. denim, 62,000 yd. muslin, 130,000 yd. sheeting, 20,000 yd. canton flannel, 35,000 yd. lining jean.

▸ Boston Wool Receipts

Receipts of domestic and foreign wools at Boston, also imports at Philadelphia and New York for the week ended Mar. 12, based upon data compiled by Dept. of Agriculture, follow:

	Week Ended Mar. 12	Total to Date 1932	Total to Date 1931
Domestic	1,527,000	12,098,000	13,012,000
Foreign	212,000	8,731,000	10,102,000
Total	1,739,000	20,829,000	23,114,000
IMPORTS AT PRINCIPAL PORTS			
Boston	212,000	8,731,000	10,102,000
Philadelphia	375,000	6,777,000	6,876,000
New York	299,000	8,080,000	10,491,000
Total	886,000	23,588,000	27,469,000

▸ Tariff Hearing on Cotton Velvets and Velveteens

Hearing has been assigned at Washington, D. C., on April 15 in the Tariff Commission's investigation of cotton velvets and velveteens.

Business News

William Miller Buys Heathcote Business

William Miller Co., 228 Aborn Street, Providence, R. I., manufacturers of comb circles since 1870, have purchased the machinery business of John Heathcote & Son, also of Providence.

J. H. Windle Joins Standard Mill Supply Co. as Vice-President

J. H. Windle, formerly northern and export agent of the Woonsocket Machine & Press Co. and Fales & Jenks Machine Co., and lately machinery agent in Providence, R. I., has been elected vice-president and a director of the Standard Mill Supply Co., Providence, and will join that organization at once bringing experience of over 30 years designing machinery, mill engineering, and manufacturing to his new connection.

Worthington's Comptroller Heads New Management Unit

C. H. Crocker, comptroller, Worthington Pump & Machinery Corp., has been elected vice-president in charge of a newly-organized unit called the Comptrollers' Division of the American Management Association.

The increasing importance of the functions of comptrollers is recognized by the association and the establishing of this Comptrollers' Division is tangible acknowledgement of their industrial importance.

Foster D. Snell, Inc., Acquires Official Testing Laboratory

The Official Testing Laboratory, for 27 years located at 191 Franklin St., New York, has been merged with Foster D. Snell, Inc., Brooklyn firm of chemists and engineers. R. O. Brooks, former State Food Inspection Chemist, of New Jersey and Pennsylvania, and director of the Official Testing Laboratory since its founding in 1905, becomes a member of the technical staff of the Snell organization. Physical assets of the laboratory consisting of equipment and apparatus, will be transferred to the laboratory and experimental plant of the Snell company located in Brooklyn.

Urges Purchase of American Products

On the basis that conditions in Great Britain, involving suspension of the gold standard and the resulting lowered exchange value of the British Pound, have resulted in increased importations of foreign textiles and textile machinery. R. H. Hood Co., Philadelphia, manufacturer of comb circles and fallers, is printing on its business stationery and envelopes the slogan "Buy American Textiles Made on American Machinery for American Prosperity." The company believes that, if all textile manufacturers and textile machinery makers in this country would follow this lead, it would undoubtedly help to put business on a better footing.

QUOTATIONS

at close of business, March 16, 1932
Prices cover average qualities unless otherwise stated

Cotton Goods

	Mar. 16	Mar. 9	Mar. 18 1931
PRINT CLOTHS			
27 -in., 64x60, 7.60	2½c.	2 11/16c.	3¼-4c.
38½-in., 64x60, 5.35	3¼c.	3¼	5½-5¾c.
39 -in., 68x72, 4.75	4½c.	4½-4¾c.	6½-6¾c.
39 -in., 72x76, 4.25	5¼c.	5¼	7¼-7¾c.
39 -in., 80x80, 4.00	5½-5¾c.	5½-5¾c.	7½-7¾c.
BROWN SHEETINGS			
36-in., 56x60, 4.00	4¼c.	4½-4¾c.	5¾c.
36-in., 48x48, 3.00	4¼c.	4¼c.	6¼c.
37-in., 48x48, 4.00	4¼c.	4¼c.	5¼c.
PAJAMA CHECKS			
36½-in., 72x80, 4.70	4½-4¾c.	4½-4¾c.	6¾c.
36 -in., 64x60, 5.75	4-4¼c.	4-4¼c.	5¼-5¾c.
MISCELLANEOUS			
Drills, 37-in., 3 yd..	4¼c.	4¼c.	6¼c.
Denims, 2.20	9¼c.	9¼c.	12 c.
Tickings, 8 oz.	12 c.	12 c.	15½c.
Standard prints	6¼c.	6¼c.	7¼c.
Eastern staple ginghams, 27-in.	6 c.	6 c.	8 c.

Cotton Waste

Peeler comber	6 - 6½
Peeler strips	5 - 5½
Sak. comber	4½ - 5
Choice willowed fly	2¾ - 3¼
Choice willowed picker	2 - 3
Sak strips	6½ - 7½
Linters (mill run)	2 - 2¾
White spooler (single)	4¼ - 4½

Cotton Yarn

CARDED (Average Quality)
Double Carded 2c.—4c., higher according to quality

SINGLE SKEINS OR TUBES (Warp Twist)

4s to 8s	$0.12½	22s	$0.16
10s	- .13	24s	- .17
12s	- .13½	26s	- .18
16s	- .14½	30s	- .19
20s	- .15½	40s ex. qual.	- .27

TWO-PLY SKEINS AND TUBES

8s-2	$0.13	26s-2	$0.18- .18½
10s-2	- .13½	30s-2	19 - .20
12s-2	- .14	36s-2	- .25
14s-2	- .14½	40s-2	- .26
16s-2	- .15	40s-hi.brk.	- .28
20s-2	15½ - .16	50s-2	- .33
24s-2	17 - .17½	60s-2	- .36

SINGLE WARPS

10s	$0.13	24s	$0.17
12s	- .13½	26s	- .18
14s	- .13½	30s	- .19½
16s	- .14½	40s. ex.qual.	- .27
20s	- .15½		

TWO-PLY WARPS

8s-2	$0.13	24s-2	$0.17½-0.18
10s-2	.13½	26s-2	.18½ .19
12s-2	.14	30s-2	.19½- .20
14s-2	.14½	40s-2 ordin.	- .26
16s-2	.15	50s-2	- .33
20s-2	.15½- .16	60s-2	- .36

8s-3 and 4-ply skeins and tubes; tinged, 11½; white, 12½; waste, 11

HOSIERY CONES (Frame Spun)

8s	$0.12½	22s	$0.16 -0.16½
10s	- .13	24s	- .17
12s	- .13½	26s	- .18
14s	- .14	30s tying	18½- .19
16s	- .14½	30s reg.	.19½- .20
18s	- .15	30s ex.qual.	.20½- .21
20s	15½- .16	40s	- .26

COMBED PEELER (Average Quality)

TWO-PLY—(Knitting Twist) Cones

20s-2	$0.25	60s-2	$0.39 - .40
30s-2	.27 - .28	70s-2	.50 - .52
36s-2	.29 - .30	80s-2	.60 - .63
40s-2	.30 - .31	90s-2	.85 - .87
50s-2	.33 - .35	100s-2	.98 -1.05

WARPS, SKEINS AND CONES

TWO-PLY—(Warp Twist)

20s-2	$0.25	60s-2	$0.40 -0.41
30s-2	.28 - .29	70s-2	.50 - .52
36s-2	.30 - .31	80s-2	.60 - .62
40s-2	.31 - .32	90s-2	.85 - .90
50s-2	.35 - .36	100s-2	.95 -1.02

SINGLES

12s	$0.18½-0.19½	30s	$0.26 -0.27
14s	19 - .20	38s	.28½- .29
16s	.19½- .20½	40s	.29 - .30
18s	.20 - .21	50s	.33 - .34
20s	.21 - .22	60s	.40 - .42
24s	.23 - .24	70s	.51 - .53
28s	.25 - .26	80s	.60 - .63

MERCERIZED CONES—(Combed, Ungassed)

26s-2	$0.42 -0.44	90s-2	$0.95
30s-2	.43 - .45	100s-2	1.20-1.25
36s-2	.45	120s-2	1.55-1.60
40s-2	.47	30s	.49- .51
45s-2	.48	40s	.54- .56
50s-2	.50 - .52	50s	.60- .62
60s-2	.55 - .57	60s	.65- .68
70s-2	.69	70s	.77- .80
80s-2	.79	80s	.92- .96

Cotton Prices and Statistics

COTTON STATISTICAL DATA

(Fluctuations of Futures)

	Closed Mar. 10	For Week High	For Week Low	Closed Mar. 16	Net Ch'ge
March	6.91	6.95	6.70	6.80	—.11
April	6.96	6.96	6.82	6.84	—.12
May	7.04	7.08	6.81	6.91	—.13
June	7.13	7.13	6.94	6.97	—.16
July	7.21	7.24	6.99	7.08	—.13
August	7.27	7.27	7.14	7.15	—.12
September	7.34	7.34	7.17	7.22	—.12
October	7.43	7.46	7.20	7.29	—.14
November	7.49	7.49	7.34	7.37	—.12
December	7.57	7.61	7.37	7.45	—.12
January	7.63	7.67	7.45	7.53	—.10

SPOT FLUCTUATIONS FOR WEEK

(Middling)

	New York	New Orleans	Liverpool
Thursday, Mar. 10	7.05	6.97	5.43
Friday, Mar. 11	7.05	6.97	5.51
Saturday, Mar. 12	7.05	6.97	5.52
Monday, Mar. 14	6.95	6.80	5.53
Tuesday, Mar. 15	6.95	6.83	5.40
Wednesday, Mar. 16	6.95	6.83	5.48

FOREIGN COTTONS

Egyptian Cotton

Alexandria Exchange, Mar. 14.		Change
Mar. Sak	13.15	+0.01
Apr. Uppers	11.15	+0.18
Mar.-Apr. Shipment c. i. f. Boston (Tariff not included)		
Fully good fair Sak (No. 38)		12.60
Fully good fair to good Uppers (No. 10)		11.15

(By Anderson, Clayton & Co.)

Foreign cottons	F. O. B. New York, Cents
Peruvian Tanguis Striet Middling	16½
Peruvian Pima No. 1	16
Peruvian Moderate Rough	11
Peruvian Full Rough	17
China Tientsin No. 1	9½
India Rough	7 to 10
India Smooth	6½ to 7½

(By Bruns-Nordeman Co.)

MOVEMENT INTO SIGHT

	This Year	Last Year
Week	215,000	162,000
Season	13,023,000	11,860,000

WORLD VISIBLE SUPPLY

	Mar. 11	One Year Ago
Interior towns and ports of U.S.*	6,580,000	5,295,000
Afloat to and at ports of Europe	1,501,000	1,902,000
Afloat to and at ports of Orient	1,134,000	454,000
Total	9,215,000	7,651,000
	Decrease	Decrease
Change during week	92,000	48,000

*Includes afloat to New York.

FORWARDINGS TO MILLS OF WORLD

	This Year Week	This Year Season	Last Year Week	Last Year Season
No. States, U.S.	22,000	573,000	25,000	605,000
So. States, U.S.	85,000	3,209,000	75,000	2,788,000
Total U.S.	107,000	3,782,000	100,000	3,393,000
Great Britain	36,000	811,000	19,000	576,000
Continent	108,000	2,250,000	61,000	2,288,000
Orient	53,000	2,009,000	26,000	836,000
Canada and other America	3,000	123,000	4,000	153,000
Total Foreign Countries	200,000	5,193,000	110,000	3,853,000
World total	307,000	8,975,000	210,000	7,246,000

EXPORTS FROM UNITED STATES

Total	172,000	6,197,000	157,000	5,235,000

AVERAGE PRICE MAR.-APR., SHIPMENT HARD WESTERN COTTON

F.o.b. New England

	Middling	St. Middling
1 1/16-in	9- 9¼c.	9¼- 9¼c.
1⅛-in	9¼- 9¼c.	10 -10¼c.
1 3/16-in	10¼-10¼c.	11c -11¼c.
1¼-in	12½-13½c.	13½-14½c.

Basis on New York, March, 6.90.

SPOT FLUCTUATIONS AND STOCKS

Markets	Mar. 9	Mar. 16	Sales	This Week	Last Year
Galveston	7.00	6.90	3,159	853,528	570,333
New Orleans	6.97	6.83	9,237	1,076,886	791,472
Mobile	6.65	6.55	4,161	206,978	251,465
Savannah	6.93	6.81	2,825	269,929	357,315
Norfolk	6.96	6.90	188	65,996	86,890
New York	7.05	6.95	1,486	206,164	228,872
Augusta	6.88	6.75	889	128,491	101,494
Memphis	6.30	6.20	23,269	423,321	293,695
St. Louis	6.65	6.50	.....	.....	10,583
Houston	6.95	6.85	5,148	1,507,289	1,263,427
Dallas	6.55	6.45	14,054	28,246	15,458

DIFFERENCES ON AND OFF MIDDLING

WHITE GRADES

	Dallas	Memphis	Montgomery	Augusta	Average
M.F	0.50†	.75†	0.65†	0.63†	0.65†
S.G.M	.40†	.50†	.55†	.56†	.51†
G.M	.30†	.40†	.40†	.38†	.37†
S.M	.20†	.25†	.25†	.19†	.23†
S.L.M	.20*	.20*	.25*	.19*	.23*
L.M	.40*	.50*	.50*	.38*	.47*
S.G.O.**	.75*	.75*	.85*	.75*	.79*
G.O	1.00*	1.00*	1.15*	1.13*	1.08*
YELLOW TINGED					
G.M	0.25*	0.25*	0.25*	0.25*	0.26*
S.M	.35*	.40*	.35*	.38*	.38*
M.**	.50*	.50*	.50*	.50*	.51*
S.L.M	.90*	.90*	.85*	.75*	.86*
L.M	1.25*	1.25*	1.15*	1.13*	1.22*
YELLOW STAINED					
G.M	0.40*	0.65*	0.50*	0.38*	0.51*
S.M.**	.65*	1.05*	.85*	.75*	.87*
M.**	1.00*	1.15*	1.15*	1.13*	1.21*
BLUE STAINED					
G.M.**	0.65*	0.60*	0.50*	0.50*	0.56*
S.M.**	1.00*	.80*	.85*	.88*	.89*
M.**	1.25*	.90*	1.15*	1.13*	1.17*

**Grades not deliverable on contract.
*Off Middling. †On Middling

Wool

OHIO, PENNSYLVANIA AND WEST VIRGINIA (IN GREASE)

Fine delne	$0.22 – $0.22½	¾ blood	$0.22½ – 0.23
Fine clthg	.20 – .21	½ blood	.20 – .21
½ blood	.22½ – .23		

TEXAS AND CALIFORNIA (CLEAN BASIS)

Texas, 12 months	$0.52 – 0.54
California, Northern	.45 – .47

PULLED—EASTERN (CLEAN BASIS)

A-A	$0.56 – $0.58	B-Super	$0.43 – 0.45
A-Super	.48 – .50	C-Super	.38 – .42

MONTANA, IDAHO AND WYOMING (CLEAN BASIS)

Staple fine	$0.55 – 0.57
Staple ¾ bld	.51 – .53
Fine and fine medium	.50 – .52
¾ blood	.46 – .48
½ blood	.39 – .41

MOHAIR—DOMESTIC

Best carding	$0.25 – 0.28
Best combing	.32 – .35

MOHAIR FOREIGN (IN BOND)

Turkey fair, average	$0.17 – 0.21
Cape firsts	.18 – .21

FOREIGN CLOTHING AND COMBING (CLEAN BASIS IN BOND)

Australia:	
70s	$0.38 – 0.40
64s	.30 – .32
58s-60s	.28 – .30

(IN GREASE)

Montevideo:	
58s-60s	$0.17 – 0.18
56s	.16 – .17
50s	.15 – .16
Buenos Aires:	
4s, 40-44s	$0.10 – 0.11
5s, 36-40s	.09 – .10

FOREIGN CARPET (GREASE BASIS IN BOND)

Aleppo washed	$0.19 – 0.20
China: Combing No. 1	.12 – .13
China Filling Fleece	.11 – .12
Szechuen ass't	.12 – .13
Cordova	.09 – .10
Scotch black face (nominal)	.14 – .16
East India: Kandahar	.15 – .16
Vican'r	.19 – .20
Joria	.19 – .20

Worsted Yarns

ENGLISH SYSTEM WEAVING

2-20s 36s	$0.70 – .72½
2-24s 40s	– .80
2-26s 44s	80 – .82½
2-28s 46s	.85 – .87½
2-30s 48s	.90 – .92½
2-32s 50s	.92½ – .95
2-30s 64s fancy mixes	1.20 – 1.22½

(Single yarns 5c. less than above)

2-36s 58s	1.00 – 1.02½
2-40s, 60s	1.12½ – 1.17½
2-40s, 64s	1.15 – 1.20
2-50s, 66s	1.30 – 1.35
2-60s, 70s	1.65 – 1.70

ENGLISH SYSTEM KNITTING

2-20s, 44s in oil	$0.65
2-20s, 48s in oil	.70
2-20s, 50s in oil	.72½
2-20s, 56s in oil	.82½ – .85
2-20s, 60s in oil	.95 – .97½
2-20s, 64s in oil	1.10 – 1.12½
1-18s, 48s dyed	.85 – .87½
1-18s, 50s dyed	.90 – .92½

(Oil yarns 17½c. less)

FRENCH SYSTEM

1-20s, 58s	.90 – .95
1-20s, 60s	1.02½ – 1.05
1-18s, 64s, dyed	1.25 – 1.27½
1-26s, 64s	1.02½ – 1.05
1-30s, 66s, Warp	1.15 – 1.17½
1-30s, 64s, Warp	1.10 – 1.12½
2-30s, 64s, Fancy mixes	1.27½ – 1.30
2-40s, 64s, Zephyrs	1.25 – 1.27½
1-50s, 66s	1.37½ – 1.40
2-50s, 66s	1.40 – 1.42½
1-60s, 70s	1.55 – 1.57½
2-60s, 70s	1.70 – 1.72½

FRENCH SPUN MERINO WHITE

1-30s, 50-50-58s on cops	.90 – .92½
1-40s, 50-50-60s on cops	1.00 – 1.02½
1-40s, 50-50-64s on cops	1.02½ – 1.05
1-40s, 50-50-64s Australian cops	1.10 – 1.15

Underwear mixes, 3 to 5c., Solid color, 35c. additional.

New York Top Futures

	Closed Mar. 9	For Week High	For Week Low	Closed Mar. 15	Net Conge
March	65.50	66.50	65.50	65.50	.....
April	66.00	66.00	65.50	65.50	—0.50
May	66.00	66.00	66.00	66.00	.....
June	66.50	66.50	66.00	66.50	.....
July	67.00	67.00	66.50	66.50	—0.50
August	67.00	67.00	66.00	66.00	—1.00
September	67.00	67.00	66.00	66.00	—1.00
October	67.50	67.50	66.50	66.50	—1.00
November	67.50	67.50	66.50	66.50	—1.00
December	67.50	67.50	66.50	66.50	—1.00
January	67.50	67.50	66.50	66.50	—1.00

Tops and Noils

TOPS—BOSTON

Fine (64-66s)	$0.76 – 0.77
Half-blood (60-62s)	.70 – .72
High ¾ blood (58s)	.65 – .67
Aver. ¾ blood (56s)	.60 – .62
Low ¾ blood	.57 – .58
High ½ blood (50s)	.51 – .53
46s S. A. and N. Z	.54 – .56
44s S. A. and N. Z	.50 – .52
40s S. A. and N. Z	.46 – .48

TOPS — BRADFORD, ENG. (Mar. 11)

Fine (70s)	25 d	¾ bld. (56s)	17 d
Fine (64s)	22½d	½ bld. (50s)	12½d
½ bld. (60s)	22 d	Cross-bred (46s)	9½d

NOILS — BOSTON

Fine	$0.35 – $0.38	High ½ bld.	$0.26 – $0.28
Half-bld	.32 – .35	Low noils	.20 – .23
Aver. ¾ bld.	.28 – .30	Medium colored	.18 – .20
Fine colored	.23 – .28		

Wool Substitutes

WOOL WASTE

Lap, fine white	$0.60 – .62
Lap, fine colored	.40 – .43
Hard ends, fine white	.41 – .43
Hard ends, ½ blood white	.28 – .31
Hard ends, fine colred	.18 – .20
Hard ends, medium colored	.13 – .15
Card, fine white	.23 – .25
Burr, fine carbonized	.24 – .26

OLD WOOLEN RAGS (GRADED FOR MFRS.)

Merinos, coarse light	$0.04½ – 0.05
Merinos, fine dark	.02½ – .03
Merinos, fine light	.09 – .10
Serges, blue	.04½ – .05
Serges, black	.04½ – .05½
Serges, red	.07½ – .08
Knit, white	.22 – .23
Knit, red	.08 – .08½
Knit, light hoods	.08½ – .09½
Worsted, light	.03½ – .04
Worsted, blue	.05 – .05½
Worsted, black	.05½ – .06

Silk Yarns

THROWN SILK (60 day basis)
Prices Nominal

Japan organzine, 2 thd. spec. gd. XX sk 85%	$2.90
Japan organzine, 2 thd. grand sk. 83%	2.80
Japan organzine, 2 thd. sp. crack. sk. 81%	2.65
Japan crepe, 3 thd. gd. XX bob. 83%	2.60
Japan crepe, 3 thd. sp. crack. bob. 81%	2.45
Japan grenadine, 4 thd. sp. grand singles, 87%	3.75
Japan grenadine, 3 thd. 90%	4.75
Canton crepe, 3 and 4 thd. 14/16 on bobbins	2.20
Hosiery tram, 3 thd. Japan 90%	3.50
Hosiery tram 5 thd, Japan, 85%	2.60
Hosiery tram, crack XX 78%	2.25

SPUN SILK YARNS (Terms: net 30)

40/2	$3.10	60/2	$3.35
54/2	3.30	62/1	2.35

Raw Silk

(60 Day Terms. Spot Goods)
Prices Nominal

	13/15 White	20/22 White	20/22 Yellow
Super Grand, 87%	$1.80	$1.80	$1.85
Special Grand, 85%	1.90	1.70	1.75
Grand XX, 83%	1.75	1.65	1.70
Special Crack, 81%	1.70	1.60	1.65
Crack XX, 78%	1.60	1.55	1.60
Extra Extra, 73%	1.55	....	....
Best Extra, 68%	1.45	....	....

Canton filature, new style, 14/16	$1.55
Canton filature, new style, 20/22	1.45
Tussah filature, 8 cocoon	.95

NATIONAL RAW SILK EXCHANGE

	Close Mar. 9	For the Week High	For the Week Low	Close Mar. 15	Net Ch'ge
March	1.48	1.48	1.47	1.47	—0.01
April	1.47	1.49	1.46	1.48	+0.01
May	1.49	1.51	1.48	1.48	—0.01
June	1.52	1.52	1.48	1.49	—0.03
July	1.56	1.56	1.53	1.55	—0.01
August	1.55	1.56	1.53	1.53	—0.02
September	1.56	1.59	1.53	1.54	—0.02
October	1.57	1.58	1.53	1.54	—0.03

Total number of bales, 4,120. Total approximate value, $931,532. Trading unit crack XX 13/15 white 78%.

Domestic Rayon

VISCOSE PROCESS

Denier	Filament	First	Second
30	8	$2.25	....
50	12-18	1.35	$1.25
75	18-30	1.20	1.10
100	18-40	1.00	.90
125	36-50	.90	.80
150	30	.72	.70
150	24-44	.75	.72
150	60	.85	.82
150	75-90	.85	.82
170	24-27	.75	.72
170	60	.85	.82
200	30-42	.75	.72
300	42-62	.63	.60
450	42-72	63	60
600	72-96	.63	.60
900	100-144	.63	.60

NITRO-CELLULOSE PROCESS

Denier	First Qual.	Second Qual.	Denier	First Qual.	Second Qual.
75	$1.35	$1.25	150	$0.75	$0.72
100	1.05	.95	175	.75	.72
125	.95	85			

CUPRAMMONIUM PROCESS

Denier	Filament	Price	Denier	Filament	Price
15	24	$3.10	75	60	$1.30
25	24	2.85	80	60	1.30
30	24	2.60	100	75	1.10
40	30	1.70	120	90	1.00
52	30	1.50	150	112	.90
65	45	1.40	180	135	.87

ACETATE PROCESS

Denier	Price	Denier	Price
45	$1.60	125	$1.10
60	1.50	150	1.00
75	1.40	300	1.00
100	1.30		

Rayon Waste

Open bleached waste	$0.13 – $0.14
Open bleached waste	.10½
Bleached thread waste (mfs.)	.09
Bleached thread waste (misc.)	.06 – .07
Colored thread waste	.03 – .04
Colored clips	.03 – .04

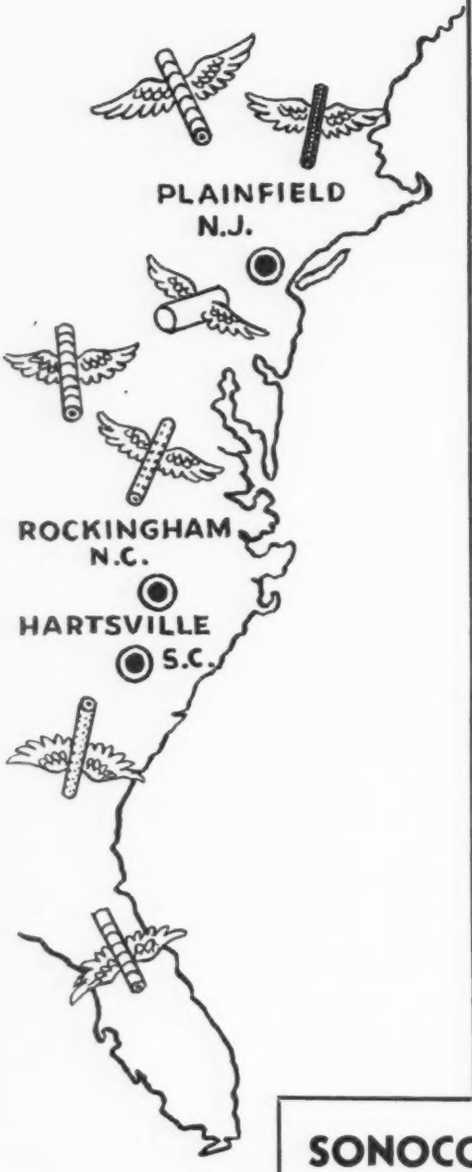
CONVERTED RAYON WASTE

Bleached tops	$0.30 – $0.32½
Unbleached tops	.27 – .28
Bleached noils	.11
Unbleached noils	.09½
Bleached garnetts	.12
Unbleached garnetts	.13
Colored garnetts	.10 – .11

Silk Waste

Kibizzo Kakai Grand XX	0.50
Kibizzo Kakai Triple Extra	.44
Frison Grand Double	.49
Pierced Cocoons	.50

Quick delivery service



SONOCO TUBES
from 3 plants

You can depend upon prompt delivery of Sonoco Tubes from our three strategically located plants . . .

—just as you can depend upon the high quality of the Tubes themselves. Strong and perfectly round, SONOCO Tubes are available in any diameter, length, or wall thickness. A complete range of body colors and surfaces—velvet, embossed, scored or plain.

SONOCO
Cloth-Winding Cores Stand Up Under Rough Handling

Cloth is wound on rolls to be unwound. Flimsy cores often mean crushed ends that make it difficult to insert the spindle for unwinding the roll. The strength of Sonoco Cloth-Winding Cores is insurance against trouble for you or your customers.

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Hartsville, S. C.

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New England Office: 512 Book Store Bldg., New Bedford, Mass.

SONOCO

CONES • TUBES • FIBRE SPOOLS • CLOTH
WINDING CORES • UNDERCLEARER ROOLS • etc.

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